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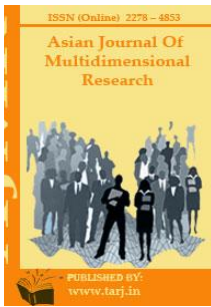
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SR · N O.	PARTICULAR	PAGE NO.	DOI NUMBER
1.	A CAVERNOUS ANALYSIS ON YOGA TOURISM IN INDIA Dr. Anjana Lohan	15-20	10.5958/2278-4853.2021.00696.0
2.	CLASSIFICATION OF WORLD MANUSCRIPTS SOURCE STUDY OF ABULHASAN MAVARDI PRODUCT "AL-AHKOM AS-SULTONIYYA VA-L-VALOYOT AD-DINIYYA" Joraev Ziyovuddin Mukhitdinovich	21-28	10.5958/2278-4853.2021.00681.9
3.	WAYS TO SOLVE PROBLEMS IN THE PRODUCTION OF KNIT WEAR M. M. Ulugboboyeva, X.Sh.Tursunova	29-33	10.5958/2278-4853.2021.00682.0
4.	PROFESSIONAL AND COMMUNICATIVE COMPETENCE OF THE FUTURE TEACHER OF THE GERMAN LANGUAGE AND ITS DIDACTIC MEANING Sokhibakhon Yakubovna Abdullayeva	34-38	10.5958/2278-4853.2021.00700.X
5.	LINGUOCULTUROLOGY IN LINGUISTICS FEATURES OF LINGVOKULTUREMAS IN THE CREATIVITY OF RAUF PARFI Shofqorov Abdushukur Musayevich, Komilova Gulmira Temirovna	39-42	10.5958/2278-4853.2021.00699.6
6.	ESTABLISHMENT OF A NATIONAL CORPUS THE UZBEK LANGUAGE IS A REQUIREMENT OF A NEW ERA Guli Toirova Ibragimovna	43-56	10.5958/2278-4853.2021.00690.X
7.	SCHOOL CHILDREN AND THEIR SPEECH Tueva Zulfiya Nozimovna	57-62	10.5958/2278-4853.2021.00689.3
8.	OPTIMAL OPTICAL - GEOMETRIC AND OPTICAL-ENERGY CHARACTERISTICS OF MIRROR-CONCENTRATING SYSTEMS A. Abdurakhmanov, Yu.B. Sobirov, S.Sh. Makhmudov	63-73	10.5958/2278-4853.2021.00702.3

9.	THE IMPACT OF HUMAN MIGRATION ON THE ETHOSPHERE OF EMIGRANT COUNTRY: PHILOSOPHICAL AND ETHICAL ANALYSIS Sardor Komilugli Alimov	74-79	10.5958/2278-4853.2021.00648.0
10.	KEY PERSPECTIVES OF YOGA AND USAGE PATTERNS IN ASSORTED RELIGIONS Dr. Anjana Lohan	80-88	10.5958/2278-4853.2021.00697.2
11.	THE IMPORTANCE OF COMPETENCIES IN IMPROVING THE PROFESSIONAL SKILLS OF FUTURE FOREIGN LANGUAGE TEACHERS Aziza Botirovna Musoyeva	89-95	10.5958/2278-4853.2021.00649.2
12.	INTERPRETATION MAHDUDOT (LIMITED UNITY) IN WAQFIYA Burobiya Rajabova	96-100	10.5958/2278-4853.2021.00650.9
13.	TO THE QUESTION OF CLASSIFICATION OF SENTENCES IN KOREAN LANGUAGE Dilshoda Rakhmonova, Natalya Kim	101-103	10.5958/2278-4853.2021.00651.0
14.	EXAMPLES OF RESEARCH ON THE DEVELOPMENT OF NATIONAL AND CLASSICAL MUSIC LISTENING SKILLS IN STUDENTS Elmurod Mahmudjonovich Tajiboev	104-111	10.5958/2278-4853.2021.00652.2
15.	THE ROLE OF TAX INCENTIVES IN ECONOMIC GROWTH AND THE METHODOLOGICAL BASIS OF THEM Ernazarov N.E	112-116	10.5958/2278-4853.2021.00653.4
16.	THEORETICAL FUNDAMENTALS OF THE DEVELOPMENT OF EUPHEMISMS G.Safarova	117-122	10.5958/2278-4853.2021.00654.6
17.	ISSUES OF IMPLEMENTATION OF PUBLIC CONTROL IN THE PROCESS OF DEMOCRATIZATION OF SOCIETY Ganisher Mamatov	123-129	10.5958/2278-4853.2021.00655.8
18.	DIGITAL PROCESSING OF BIOMEDICAL SIGNALS IN HAAR'S PART-WAVELET MODELS Khakimjon Nasridinovich Zaynidinov, Jonibek Uktamovich Juraev, Asror Mahmado'stovich Boytemirov	130-139	10.5958/2278-4853.2021.00656.X

19.	A SCIENTIFIC ANALYSIS OF THE FACTORS THAT REQUIRE A VICTIM TO COMMIT A CRIME Kodirali Abdusalimovich Saitkulov	140-144	10.5958/2278-4853.2021.00657.1
20.	RIVER WATER TREATMENT LEARNING USING COAGULATION, FERROLITE, MANGANESE GREENS AND, AND RESIN Doni Kristianto and Setyo Purwoto	145-156	10.5958/2278-4853.2021.00695.9
21.	HEALING OF POMEGRANATE AND PROTECTING IT FROM MAJOR PESTS Mirzaeva S. A, Tursunov J. Kh, Juraeva Kh	157-161	10.5958/2278-4853.2021.00658.3
22.	THE IMPORTANCE AND NECESSITY OF TEACHING COMPUTER SCIENCE AND PROGRAMMING FOR PRIMARY SCHOOL STUDENTS Muhayyo Mansurjonqizi Bahromova	162-166	10.5958/2278-4853.2021.00659.5
23.	FACTOR ANALYSIS OF THE CAUSES OF DEVELOPMENT OF COMPLICATIONS AFTER SURGICAL TREATMENT OF DIFFUSE TOXIC GOITER Murodjon Foziljonovich Nishanov, Farrukh Anvarovich Urinov, Diloram Fozilovna Nishanova, Muslim Rustamovich Aliboev	167-175	10.5958/2278-4853.2021.00660.1
24.	PUBLIC CONTROL AS AN IMPORTANT CONDITION OF CIVIL SOCIETY Shaxriddin Ganiyev	176-183	10.5958/2278-4853.2021.00661.3
25.	THE ISSUE OF SPIRITUAL AND MORAL EDUCATION AND TOLERANCE IN THE "AVESTA" Zafar Khayitov Uzakovich	184-189	10.5958/2278-4853.2021.00693.5
26.	ANALYSIS OF THE METHODOLOGICAL TOOLS USED IN THE STORIES OF ABDULLAH KHAKHHOR Ubaydullaev Alisher Abdusalomovich	190-196	10.5958/2278-4853.2021.00694.7
27.	THE IMPLEMENTATION OF HUMAN INDICATOR REFORMS IN UZBEKISTAN Turdiyev Bexruz Sobirovich	197-202	10.5958/2278-4853.2021.00692.3
28.	ISSUES OF GENDER EQUALITY IN UZBEKISTAN: STRATEGY OF REFORMS Turdiyev Bexruz Sobirovich	203-207	10.5958/2278-4853.2021.00691.1

29.	A QUESTION ABOUT PRONOUNS IN A KOREAN SENTENCE Malika Mukhiddinova	208-211	10.5958/2278-4853.2021.00662.5
30.	ULTRASOUND EXAMINATION IN THE PREVENTION OF COMPLICATIONS OF OPERATIONS ON THE BILIARY TRACT Akhmedov F.Kh, Khamdamova M. T	212-214	10.5958/2278-4853.2021.00705.9
31.	MORPHOMETRIC FEATURES OF ANTHROPOMETRIC PARAMETERS OF ADOLESCENTS LIVING IN THE CITY OF BUKHARA ENGAGED IN ATHLETICS Hikmatova M. F, Khamdamova M.T	215-217	10.5958/2278-4853.2021.00704.7
32.	OPPORTUNITIES FOR STUDENTS TO FORM BASIC CONCEPTS AND IDEAS ABOUT ENERGY SAVING P.f.d. Abdiyev Umirbek Begmatovich, Toshpulatov Sirojiddin Furqatog'li	218-220	10.5958/2278-4853.2021.00703.5
33.	USE OF INNOVATIVE TECHNOLOGIES IN THE EDUCATION SYSTEM FOR INTEGRATION PURPOSES Akhmadjon Mirzaevich Jumanov, Muxtassar Abdulxayqizi Ziyomiddinova	221-224	10.5958/2278-4853.2021.00663.7
34.	STRUCTURE AND CORRECTION OF PSYCHOEMOTHICAL DISORDERS IN PATIENTS WITH SECOND TYPE OF DIABETES Bekzod Bahromovich Ibodullaev	225-230	10.5958/2278-4853.2021.00664.9
35.	FUNCTIONAL AND STYLISTIC FEATURES OF NOUNS IN PERSIAN NEWSPAPER TEXTS Dilfuza Rafukjanvna Akhmedova	231-240	10.5958/2278-4853.2021.00665.0
36.	PEDAGOGICAL BASIS OF ORGANIZING EDUCATIONAL HOURS FOR 10-11 GRADE STUDENTS Gulom Yuldashevich Salomov	241-243	10.5958/2278-4853.2021.00666.2
37.	APPLICATION OF THE IMMUNOSTIMULANT ZEROX FOR DETERMINATION OF LEAF SURFACE, DRY MASS AND NET PRODUCTIVITY OF PHOTOSYNTHESIS OF COTTON PLANT Makhbuba Latipovna Ikramova, Rukhsora Odilovna Atoeva, Bakhtiyor Nimatovich Rakhmatov	244-250	10.5958/2278-4853.2021.00667.4

38.	MICHAEL FARADEY, THE PRODIGAL, AND ABOUT HIS SCIENTIFIC HERITAGE Yusup Ganievich Makhmudov, Bokhodir Abdusamatovich Mirsalikhov	251-255	10.5958/2278-4853.2021.00668.6
39.	ETHNIC AFFINITIES OF KAZAKHS AND KARAKALPAKS Tajetdinova B.N	256-261	10.5958/2278-4853.2021.00669.8
40.	IMPORTANT ASPECTS OF HUMAN CAPITAL MANAGEMENT Nilufar Juraevna Nurimova	262-266	10.5958/2278-4853.2021.00670.4
41.	IMPORTANCE OF DISEASES IN THE CULTIVATION OF CUCUMBERS (CUCUMIS SATIVUS) IN GREENHOUSES Azamatjon Muydinjonovich Ismatov, Elbek Abdurahmonogli Shermamatov, Sarvarjon Omonjonogli Toshmatov	267-270	10.5958/2278-4853.2021.00647.9
42.	AMIRIY AND FAZLIY Zeboxon Bakirovna Kobilova	271-276	10.5958/2278-4853.2021.00671.6
43.	SPECIFIC FEATURES OF THE MEDIATION AGREEMENT IN THE SYSTEM OF MARKET RELATIONS Djambakieva Feruza Bakhtaxunovna	277-281	10.5958/2278-4853.2021.00701.1
44.	STRENGTH AND RESISTANCE TRAINING AND IMPLEMENTATION IMPACT ON ENDURANCE LEVELS Dr. Anjana Lohan	282-290	10.5958/2278-4853.2021.00698.4
45.	HOUSEHOLD FINANCE AS THE BASIS OF A MODERN FINANCIAL SYSTEM Alieva S.S	291-299	10.5958/2278-4853.2021.00672.8
46.	THE ROLE OF SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN FOREIGN ECONOMIC ACTIVITY Dilfuza Valieva Rasulova, Nodira Bakhodir kizi Rakhimova	300-304	10.5958/2278-4853.2021.00673.X
47.	FACTORS INFLUENCING THE PROCESS OF WET-HEAT TREATMENT OF CLOTHING PARTS AND THEIR INTERRELATION Jamoliddin Samatovich Ergashev, Dilrabo Khabibullaevna Rayimberdiyeva, Nizomjon Adashaliyevich Ismatullayev, Orifkhon Khasankhon ogli Madaliyev	305-310	10.5958/2278-4853.2021.00674.1

48.	ON THE THEORETICAL AND PRACTICAL FOUNDATIONS OF LANGUAGE CORPORA Nurislom Iskandrovich Khursanov	311-318	10.5958/2278-4853.2021.00675.3
49.	PECULIARITIES OF CHINESE TRANSNATIONAL COMPANIES (ON THE EXAMPLE OF SINOPEC) Javohirjon Damirjon Ugli Toirov	319-323	10.5958/2278-4853.2021.00676.5
50.	“MANAGEMENT PERSPECTIVES FROM SRI GURU GRANTH SAHIB: LESSONS FOR MANAGERS AND LEADERS” Dr Ramandeep	324-329	10.5958/2278-4853.2021.00677.7
51.	FEATURES AND PECULIARITIES OF AVIATION PSYCHOLOGY Yeliseyev N.A	330-336	10.5958/2278-4853.2021.00678.9
52.	CHARACTERISTICS OF FOREIGN ECONOMIC ACTIVITY AND TOURISM DEVELOPMENT IN INDIA Zulaykho Abdukhalimovna Kodirova, Gulchehra Salihovna Isamukhamedova, Shakhnoza Erkinovna Abdullaeva	337-343	10.5958/2278-4853.2021.00679.0
53.	CATALYTIC CHANGES OF C1-C4 ALKANES IN (MoO₃)_x(ZnO)_y(ZrO₂)_z(B₂O₃)_k CATALYST I. M. Nurmanova, N. I. Fayzullayev	344-352	10.5958/2278-4853.2021.00683.2
54.	SIMULATION OF WEAR OF THE PISTON RING OF THE INTERNAL COMBUSTION ENGINE Ismoil E. Tursunaliyev, Ikrom E. Ergashev, Dilshodbek M. Tursunov, Ahror A. Abdurahimov	353-362	10.5958/2278-4853.2021.00684.4
55.	IMPACT ON MICRO INSURANCE PRODUCTS (A STUDY WITH REFERENCE TO SALEM DISTRICT) A Renuka	363-371	10.5958/2278-4853.2021.00706.0
56.	RETRO STYLE IN MODELING WOMEN'S CLOTHING Mirboboeva Gulhayo Abdusattorovna, Urmonova Nodiraxon Qosimjonovna	372-376	10.5958/2278-4853.2021.00686.8
57.	ANALYSIS OF THE DEVELOPMENT OF OLDER WOMEN'S CLOTHING OF DIFFERENT SUBCULTURES (ON THE EXAMPLE OF MUSLIM WOMEN'S CLOTHING) Sovridinova Mohidil Husan qizi, Yusupova Dilfuza Ubaydulloyevna, Hoshimov Jasurbek Valiyevich	377-381	10.5958/2278-4853.2021.00687.X

58.	ANALYSIS OF TEXTURE CHARACTERISTICS OF MODIFIED AND ACTIVATED NAVBAHOR BENTONITE Jobir X. Xamroyev, Jasur H. Shukurov, Normurot I. Fayzullayev, Otabek B. Mahmudov, Kamolddin A. Kungratov	382-393	10.5958/2278-4853.2021.00685.6
59.	SCIENTIFIC AND PROJECT ANALYSIS OF THE CONCEPTS OF CONSERVATION AND INTEGRATED DEVELOPMENT OF THE HISTORICAL CENTRES OF THE CITIES OF UZBEKISTAN Sodiqov Doniyor, Xalimov Xabibullo	394-398	10.5958/2278-4853.2021.00688.1
60.	OCCURRENCE OF LEXEMAS IN AVIATION TERMINOSYSTEM BY TYPES OF FORMS AND MEANING Rano Turaevna Ergashova	399-403	10.5958/2278-4853.2021.00680.7
61.	METHOD FOR RATIONAL USE OF BOTANICAL OIL CONTENT IN WHEAT GERM PRODUCT N.R. Djuraeva, U.O. Tursunova	404-410	10.5958/2278-4853.2021.00708.4
62.	SHADOW ECONOMY IN THE ORBIT OF ECONOMIC SECURITY OF THE STATE Dilshod Kamiljanovich Yakubov	411-418	10.5958/2278-4853.2021.00709.6
63.	NATURAL INTERSUBJECTSFORMATION OF ECOLOGICAL THINKING IN SCHOOL PUPILS Hushbak Babanazarovich Narbutaev	419-426	10.5958/2278-4853.2021.00710.2
64.	THE ESSENCE AND ANALYSIS OF THE CONTENT OF THE WORKS OF FRANZ PETER SCHUBERT Ibragimov Abdupatto Ahmadjonovich	427-433	10.5958/2278-4853.2021.00711.4
65.	ESTABLISHMENT AND DEVELOPMENT OF UZBEK THEATER Oktamjon Ergashevich Abdullayev	434-440	10.5958/2278-4853.2021.00712.6
66.	INFORMATION ON SYNCHRONOUS GENERATORS AND MOTORS Oybek Bakhtiyorjonogli Parpiev, Dilmurod Abduraimovich Egamov	441-445	10.5958/2278-4853.2021.00713.8
67.	PROFESSIONAL INTEREST OF STUDENTS IN SELECTED PROFESSIONS Sadoqat Alijonovna Sadieva	446-450	10.5958/2278-4853.2021.00714.X

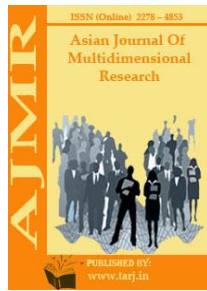
68.	MODES PETROVICH MUSORGSKI ANALYSIS OF THE OPERA "BORIS GODUNOV" Turgunpolat Sultonaliyevich Davlatov, Gulhayo Alisher qizi Usmonjanova	451-455	10.5958/2278-4853.2021.00711.4
69.	PSYCHOLOGY OF SUFIZM: "SAFAR DAR VATAN" Kasimov Ubaydulla Axrorovich	456-461	10.5958/2278-4853.2021.00715.1
70.	PHOTOSYNTHETIC INDICATORS OF PLANTS VEGETABLE SOYBEANS AND BEANS DEPENDING ON CHLORIDE SALINITY Kim Veronika Vladimirovna, Narimanov Abdujalil Abdusamatovich	462-466	10.5958/2278-4853.2021.00716.3
71.	ACTS CREDIT MODULE SYSTEM AND ITS IMPLEMENTATION ACTIVITIES IN HIGHER EDUCATIONAL PROCESS Jobirkhon Jurakhanovich Gaziyeu, Gulomjon Olimjonovich Toshmatov	467-472	10.5958/2278-4853.2021.00725.4
72.	AGRAMMATISM IN INTERNET DISCOURSE Muhabbat Madaminova	473-477	10.5958/2278-4853.2021.00726.6
73.	OPPORTUNITIES FOR YOUNG PEOPLE TO USE FOLK MUSIC IN THEIR ARTISTIC AND AESTHETIC DEVELOPMENT Muqaddas Riskulovna Muminova	478-482	10.5958/2278-4853.2021.00727.8
74.	THE IMPORTANCE OF INSTALLATION OF BASE GPS STATIONS IN PERMANENT ACTIVITY IN FERGANA REGION Muxarram Arabboevna Abdukadirova, Gulshanoy Mirzaraxmatkizi Mirzakarimova	483-488	10.5958/2278-4853.2021.00728.X
75.	INCREASING THE EFFECTIVENESS OF TAXES IN THE FORMATION OF LOCAL BUDGET REVENUES Obid Rakhmatullaevich Meyliev	489-498	10.5958/2278-4853.2021.00729.1
76.	HISTORY OF UZBEK FOLK MUSIC Otamurod Eshmirza ogli Kholmirezayev	499-503	10.5958/2278-4853.2021.00730.8

77.	COMPARATIVE STUDY OF THE TOTAL PROTEIN AND FREE AMINO ACIDS OF PLANTS URTICA DIOICA AND CRATAEGUS PONTICA Raimova K.V, Berdiev N.Sh, Ishimov U.Zh, Turdieva Z.V, Abdullajanova N.G, Matchanov A. D	504-510	10.5958/2278-4853.2021.00731.X
78.	DEVELOPMENT OF DEFORMATIONS IN THE REINFORCEMENT OF BEAMS WITH COMPOSITE REINFORCEMENT Shodiljon Abdugofurovich Umarov	511-517	10.5958/2278-4853.2021.00732.1
79.	FORMATION OF AN ELECTRONIC DATABASE OF UZBEK GRAMMATICAL TERMS IN THE EDUCATIONAL CORPUS Sultonova Sh	518-524	10.5958/2278-4853.2021.00733.3
80.	LINGUISTIC ANALYSIS OF NEWSPAPER TEXT Orazimbetova Z.K	525-528	10.5958/2278-4853.2021.00741.2
81.	DEFORMATION OF REINFORCEMENT AND CONCRETE OF BENDED CONCRETE STRUCTURES WITH FIBERGLASS REINFORCEMENT Yuldashali Mamazhonovich Makhkamov, Sahiba Mirzaakbarovna Mirzababayeva	529-537	10.5958/2278-4853.2021.00735.7
82.	EXPERIMENTAL AND THEORETICAL STUDIES OF THE OPERATION OF INCLINED SECTIONS OF BENDED BEAMS UNDER ONE-SIDED HEATING Yuldashali Mamazhonovich Makhkamov	538-548	10.5958/2278-4853.2021.00736.9
83.	IMPROVEMENT OF TECHNOLOGY TECHNOLOGY MANUFACTURING WOOD, WOOD WITH SULFUR SOLUTION Zarnigor Alisher qizi Mirzaeva	549-555	10.5958/2278-4853.2021.00737.0
84.	REASONABLE DESIGN OF CEMENT COMPOSITIONFOR REFRACTORY CONCRETE Zebuniso Asrorovna Abobakirova	556-563	10.5958/2278-4853.2021.00738.2
85.	SYNCHRONOUS MACHINES AND COMPENSATORS Kamolov Nosirjon Kamolovich, Norkhojayeva Nargiza Nasirovna	564-568	10.5958/2278-4853.2021.00717.5
86.	PHYSICAL PROPERTIES AT THE CONTACT SEMICONDUCTOR - GAS DISCHARGE PLASMA IN A THIN GAS DISCHARGE CELL Yuldashev Kh. T, Akhmedov Sh. S	569-573	10.5958/2278-4853.2021.00718.7

87.	CIRCUITS AND OPERATING PRINCIPLE OF DC CONVERTERS Akhmedov Sherzod Sodiqjonovich	574-578	10.5958/2278-4853.2021.00719.9
88.	MODERN METHODS OF EFFECTIVE MANAGEMENT OF INNOVATION PROCESSES IN THE CONTEXT OF GLOBALIZATION Makhkamova Mamlakat Abdukadirovna	579-583	10.5958/2278-4853.2021.00720.5
89.	ORGANIZATIONAL AND ECONOMIC MECHANISM OF SUSTAINABLE DEVELOPMENT OF ENERGY ENTERPRISES Allaeva Gulchekhra Zhalgasovna	584-592	10.5958/2278-4853.2021.00721.7
90.	FACULTY DEVELOPMENT IS INTEGRAL TO ENGINEERING EDUCATION: A STUDY Mrs. Sarojini Devi Ummareddy, Dr. S.S. Prasada Rao	593-604	10.5958/2278-4853.2021.00742.4
91.	FROM THE HISTORY OF FORMATION AND DEVELOPMENT OF NOTARIAL INSTITUTIONS Kholikulov Sherzod Bozorovich	605-609	10.5958/2278-4853.2021.00723.0
92.	MODERN URBANIZATION FEATURES OF ZARAFSHAN ECONOMIC DISTRICT Haydarov Dilshod Ochilovich	610-614	10.5958/2278-4853.2021.00724.2
93.	CHARACTERISTIC FEATURES OF MORPHOLOGICAL CHANGES IN THE SPLEEN TISSUE OF WHITE RATS AFTER A MODERATE TRAUMATIC BRAIN INJURY Fayziev Xurshid Burhanovich	615-620	10.5958/2278-4853.2021.00739.4
94.	INSPECTION OF CONCRETE IN REINFORCED CONCRETE ELEMENTS Ugilyov Abdukhalimjohnovna Mirzaakhmedova	621-628	10.5958/2278-4853.2021.00734.5
95.	METHODOLOGY FOR ASSESSING THE ECONOMIC EFFICIENCY OF INNOVATION ACTIVITIES Tarakhtieva Gulmira Kulbaevna	629-637	10.5958/2278-4853.2021.00740.0
96.	DIGITALIZATION - OPPORTUNITY FOR MANAGEMENT DEVELOPMENT IN AN INDUSTRIAL FACTORY Mirsaidova Shaxnoza Areslonbekovna	638-642	10.5958/2278-4853.2021.00722.9

97.	A STUDY OF INFLUENCE OF SOWING TIME, SEED AND MINERAL FERTILIZER RATES ON TRITICALE "SARDOR" VARIETY PRODUCTIVITY INDICATORS Bakhtiyor Sadullaevich Kushmatov, Bakhodir Meylikovich Kholikov	643-648	10.5958/2278-4853.2021.00752.7
98.	IMPROVING THE EFFECTIVENESS OF CONTINUING MUSIC EDUCATION THROUGH TECHNOLOGICAL DESIGN Charos Nematovna Torayeva	649-652	10.5958/2278-4853.2021.00753.9
99.	THE IMPORTANCE OF THEMATIC CONCERTS IN THE EFFECTIVENESS OF EDUCATION Kholbekov M	653-656	10.5958/2278-4853.2021.00754.0
100.	DESCRIPTION OF THE HUMAN SPIRIT IN COMPARATIVE PHRASEOLOGICAL UNITS Laylo Buriboyevna Dolieva	657-660	10.5958/2278-4853.2021.00751.5
101.	COMPARATIVE ANALYSIS OF THE DEVELOPMENT CHARACTERISTICS OF THE TOURISM INDUSTRY IN ECONOMIC DEVELOPED AND DEVELOPING COUNTRIES Nazira Tokhtaevna Azizova, Zuhra Shuhratilloevna Norova	661-669	10.5958/2278-4853.2021.00750.3
102.	DIRECTIONS FOR THE DEVELOPMENT OF INTERNATIONAL TOURISM Nazira Tokhtaevna Azizova, Zilola Akramkulovna Rasulkulova	670-676	10.5958/2278-4853.2021.00749.7
103.	THE RECOMMENDER SYSTEM: OPERATIONS RESEARCH IN OTT-PLATFORMS Anoushka Shah, Ansh Rathod, Arnav Jain, Aryan Chopra, Aryan Jadhav	677-684	10.5958/2278-4853.2021.00755.2
104.	CULTURAL VALUES IN RUSSIAN AND UZBEK LANGUAGES Rakhmatova Mamura Shakhridinovna	685- 689	10.5958/2278-4853.2021.00747.3
105.	THE TECHNIQUE TO INCREASE THE CHILD'S SELF-ESTEEM AND DEVELOP SELF-CONFIDENCE Khalilov Salokhiddin Arziyevich, Usmanov Shavqiddin Toshmamatovich	690-695	10.5958/2278-4853.2021.00748.5
106.	PEDAGOGICAL FOUNDATIONS OF PHYSICAL FITNESS CONTROL AMONG YOUNG MEN 13-14 YEARS Zaripova Farida Abdullayevna	696-701	10.5958/2278-4853.2021.00746.1

107.	FIRE SAFETY Atajonova Odina Ikromjonovna, Abdurakhmanova Sayyorakhon Ruzaliyevna	702-706	10.5958/2278-4853.2021.00745.X
108.	IDEOLOGICAL FACTORS OF ELIMINATING THREATS TO NATIONAL SPIRITUALITY Nabiev Bekzod	707-711	10.5958/2278-4853.2021.00744.8
109.	SOCIO-MORAL AND MORAL ASPECTS OF THE FORMATION OF A CIVIL POSITION IN YOUNG PEOPLE Qurambojev Alisher Makhsudovich	712-715	10.5958/2278-4853.2021.00743.6
110.	THEORETICAL CONCEPTS OF RESONANCES AND CHARMING PARTICLES IN NUCLEAR PHYSICS AND THEIR SCIENTIFIC ESSENCE Chariyev Muxammadi Muminovich	716-719	10.5958/2278-4853.2021.00758.8
111.	MECHANISMS FOR IMPROVING SPIRITUAL AND EDUCATIONAL ACTIVITIES IN EDUCATIONAL INSTITUTIONS Kuchkarova Feruza Mahammatqosimovna	720-723	10.5958/2278-4853.2021.00757.6
112.	TERMINOLOGY AS A STRUCTURAL ELEMENT OF THE LANGUAGE Sultanova Zarifa Oktamovna, Prof Gafforov Nodir Nasriyevich	724-731	10.5958/2278-4853.2021.00759.X
113.	MARSHALING THE MARKET BEHAVIOR: AN EVALUATION STUDY OF CONSUMER PERSPECTIVE ON THEIR PACKAGING Dr. Rakesh D, Ms. Maheshwari B P, Mr. Abhilash P	732-750	10.5958/2278-4853.2021.00762.X
114.	AUTOMATION OF TRANSFORMER SUBSTATIONS OF INDUSTRIAL ENTERPRISES WITH MODERN PROGRAMMED LOGICAL CONTROLLERS Aslanova Gulnoz Nasriddinovna	751- 757	10.5958/2278-4853.2021.00760.6
115.	NEW STAGE OF COOPERATION BETWEEN UZBEKISTAN AND THE UN Haydaraliev Shuhrat Abdulazizovich	758-761	10.5958/2278-4853.2021.00761.8



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A CAVERNOUS ANALYSIS ON YOGA TOURISM IN INDIA

Dr. Anjana Lohan*

*Associate Professor,
Head, Deptt. Of Physical Education, S.D. Mahila Mahavidyalay,
Narwana (Jind), INDIA

ABSTRACT

It's called "yoga tourism" when people go on vacation just for the goal of doing yoga, whether it's spiritual or physical. There are two types of spiritual tourism: one is strictly spiritual, while the other is a mix of spiritual and health-oriented travel. Yoga students and yoga instructors from across the world go to India's ashrams to further their practise or get certified. Rishikesh and Mysore are two popular destinations for yoga tourists. As the home of yoga and a popular tourist destination, India offers many different types of yoga retreats and vacations, from modest stays in guesthouses and ashrams to luxurious 5-star stays at luxury resorts and spas. The global tourism sector is approximately \$3.2 trillion, with wellness travel accounting for 14% (or \$439 billion) of that total. "Healthier lives at home are increasingly translating into people's travel and holiday routines," said Susie Ellis, Chairman and CEO of the Global Spa & Wellness Summit. When people want to get away from their everyday routines, they also want to utilise their vacation time and money to improve their fitness levels.

KEYWORDS: *Yoga Tourism, Tourism on Base of Yoga in India, India Yoga Tourism.*

INTRODUCTION

Yoga tourism does not have to include visiting an ashram (a Hindu monastery) or going to India, although the latter is the activity's locus classicus since it is the origin of yoga. Yoga ashrams, for instance, may be found throughout Canada. The "holistic centres" and "yoga vacations" venues, as well as "a 5-star resort with a famous Yoga Teacher," are examples of other potential kinds of location. In countries like Greece, Sri Lanka, Japan, and Thailand, yoga vacations are offered. In other places like Scotland and the Maldives, yoga vacations are offered. Many nations offer yoga retreats, including Costa Rica and Italy, for example. "Pastoral yoga" may be found in nations such as France, and in countries like Bulgaria and Turkey, hotels and guesthouses throughout the globe provide yoga vacations.



Figure 1: A Yoga Holiday

As well-known for its Taj Mahal and tigers of Ranthambore, India is also renowned for its yoga and meditation practises. Rishikesh, India, in 1969, when the Beatles went there with Maharishi Mahesh Yogi is a renowned illustration of the importance India has in a world that cares not only about mental and physical well-being but also about spiritual development and progress. Some of the most well-known people in the contemporary era have sought solace at Indian Yoga and meditation retreats, including Mia Farrow, Steve Jobs, and Oprah Winfrey. Prince Charles and Camilla Duchess of Cornwall visited an ashram in Rishikesh in November of that year.

Traveling for wellness may involve activities like yoga and meditation, as well as relaxing spa treatments and massages to help people de-stress and enhance their overall health. Ayurveda, Yoga, and Meditation have flourished in India, making it an ideal destination for wellness travellers. One of the world's fastest-growing wellness destinations, it has a predicted annual growth rate of 22%. Today, the United States is the top wellness tourist destination with an annual growth rate of 5.8 percent.

The popularity of Yoga is shown by the fact that in December 2014, the United Nations approved a resolution designating June 21 as Globe Yoga Day, which was unanimously adopted by all 193 nations across the world, with 177 countries co-sponsoring the resolution.

Since the 'Incredible India' marketing campaign of 2002, which targeted higher-yielding (read: "wealthier") visitors, India's tourism has increased consistently since that time. Thousands of years old formulas for everlasting youth may be found in India's sacred towns, from dirt-cheap ashrams to five-star meditation retreats.

Steps done by the Indian government to promote Indian yoga tourism

Last year's first Rajpath International Yoga Day achieved two Guinness World Records for the most people participating in a single event at the same time. With 35,985 attendees, the mammoth event set a new record for the world's biggest yoga session. It's also the most ethnically diverse yoga festival ever, according to the organisers. It has drawn participants from as many as 84 different nations.

Government agencies such as the Ministry of Ayush and the Tourism Ministry are working together to position India as a "Yoga Tourism" hotspot where people may go to cure their bodies

and minds. As a result, their slogan reads, "India, Land of Yoga." The medical tourism industry in India has also been connected to it, and it encourages individuals to seek out more holistic approaches to their health care needs.

Officials from the Ministry of Tourism in India disseminate a directory of genuine yoga centres as well as marketing materials featuring yoga poses to the general public throughout the world. Some yoga tourists travel to India to become certified yoga teachers, like these participants in a 200-hour Ashtanga yoga teacher training in Rishikesh.



Figure 2: Foreign Tourists on Yoga Holiday in India

The New Tourism Policy 2015, which was unveiled on May 15th, 2016, mandates the establishment of a National Tourism Board in India to boost tourism. In order to provide visitors with more information, the government has implemented a "one window portal system." We must address a number of problems in order to encourage ethical and sustainable tourism, such as:

- Construction of infrastructure and maintenance of existing systems
- Assuring the well-being of visitors
- Enhance distant area connection, and
- E-ticketing.

It's also trying to attract tourists with the promise of enlightenment offered by Yoga. Identifying and connecting yoga centres throughout the nation with tour operators is how they plan to do this. With the assistance of state governments, the focus is also on building physical structures and skill sets that will make these destinations more appealing to tourists from other countries, such as the capacity to manage guests and a focus on foreign languages. Yoga will be promoted more effectively via the use of social media and open platforms.

The Indian Association of Tour Operators' President, Subhas Goyal, stated the following during the event: "This is an excellent place to start. Yoga is becoming more and more popular all around the globe, which is why more people are interested in going on yoga vacations. It's great that the government is stepping up to the plate on this."

Yoga as a Way of Life Alternative

Yoga has been practised in India for thousands of years as a way to improve one's physical and mental well-being, as well as one's spiritual well-being. To improve the health of Indians, the government is trying to bring back an old Indian practise that has been abandoned for centuries. A daily practise of 'yoga' has been mandated by the HRD Ministry for schools.

Yoga provides more than just a quick fix; it delivers long-term change, which is why many visitors to India who come to practise Yoga return time and time again to learn more about it. When putting up yoga vacation packages, we must bear in mind the importance of both. It's disheartening for visitors when they spend a lot of time waiting for nothing to happen. Our best bet is to inform them about the long-term health advantages of yoga while also including short-term results-oriented workouts and practises.

As it is for everyone, yoga tourism offers up a world of possibilities. There are courses for people of all ages and fitness levels. Many people of all ages may be seen practising yoga in today's contemporary studios, including energetic young children and adolescents, fitness fanatics, bodybuilders, and athletes, as well as middle-aged homemakers and the elderly. Yoga, in contrast to other types of physical exercise or sports courses, is all-inclusive.

By focusing one's training, yoga practise aids in the attainment of inner calm and serenity. Yoga helps us to relax, de-clutter our thoughts, and create a place for ourselves where we may be happy and at peace with ourselves at a time when work obligations, children's requirements, spouse's expectations, and never-ending to-do lists can easily overwhelm us.

There are many types of 'yoga,' each with its own benefits and challenges. Relaxation yoga emphasises breathing exercises and meditation techniques; hot yoga, or Bikram Yoga, helps you eliminate toxins from your body by performing exercises in a hot room; power yoga is for people who want to increase their stamina and resistance power; prenatal yoga is for pregnant women; and Hatha Yoga is for people who want to learn basic postures at a comfortable pace. There are many different kinds of yoga, each with their own benefits.

You can study and practise Yoga regardless of your body fat percentage, fitness level, or health history. It implies that the number of customers who may be served by a Yoga tour operator is unbounded.

Yoga Tourism: Key Advantages

We must keep in mind that 'Yoga' for Indians is not the same as 'Yoga' for Westerners. For example, many American yoga practitioners pride themselves on being fiercely independent. Some people find that doing yoga is a non-strengthening method to shed weight or relieve stress. Others may see yoga as a series of difficult poses designed to increase their flexibility, firm their abs, or help them achieve a more slim physique. Those with chronic illnesses like diabetes or arthritis, for example, may try to find a method to slow or stop their progression. If you want to make money from 'Yoga,' you need to make it a commodity.

Since June 21st, the whole Indian travel and tourism industry has had a chance to increase incoming tourism. Clientele from France, the United States, Germany, Russia, and other nations participate frequently in yoga trips. Yoga is now well-known all around the globe thanks to the World Yoga Day branding, and niche tourist goods in the area with specific Yoga packages will perform well as a result.

"The potential for Yoga and Spiritual tourism is very significant," said Mehul Gor, MD of Mumbai's Amigo Travel Services. We often take Russian and American yoga students on trips to India. Last year, we dealt with over 100,000 visitors from all over the globe who came to India just for Yoga.

Not only does yoga tourism benefit the ashram services industry, but it is also beneficial to the whole hotel industry. It was stated by Anuj Singhal from Mauritius Tourism that most of their customers who travel to India for a Yoga experience remain for a longer length of time than originally intended. Guest homes and serviced flats of the highest calibre are also in demand.

Business organisations, both domestic and international, often utilise Yoga sessions for their workers as an alternative to on-site training programmes. As a result, people in the tourist sector will have additional options.

However, take note of this warning. No matter how hard we try, Yoga tourism will only grow if we provide visitors with high-quality experiences. A large number of other nations are trying to get in on the action. The Indonesian island of Bali is a well-known Yoga destination. Other popular locations for Yoga World Tours include Thailand, Laos, and Cambodia. Morocco, Turkey, Fiji, China, and Sri Lanka are also vying for attention on the Yoga global circuit with a 'Hot Spring Yoga' tour.

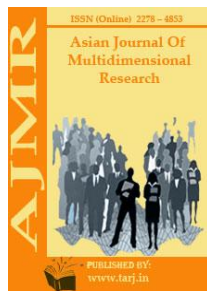
CONCLUSION

Since the Beatles visited Maharishi Mahesh Yogi's ashram in Rishikesh in 1968 to participate in a Transcendental Meditation training course, India has become a popular destination for yoga tourists. Since then, there has been a resurgence in Western interest in Indian spirituality[6, 7] and many Westerners have travelled to India in search of "authentic" yoga at ashrams such as those in Mysore (home of Ashtanga Yoga) and Rishikesh. As a result of this trend, the Indian Ministry of Tourist and the Ministry of AYUSH promoted India as a "yoga tourism hub" and established many yoga schools providing teacher training. Reception Enlightenment for Idiots by Mindful Yoga teacher Anne Cushman softly satirises the spiritual journeys of young Westerners to India, as well as the many types of ashrams and yoga that they may choose from. Elizabeth Gilbert's 2006 book *Eat, Pray, Love*, which has been made into a romantic Hollywood film, recounts her journey of self-discovery at an Indian ashram. The Siddha Yoga ashram Gurudev Siddha Peeth in Maharashtra is where Gilbert is said to have stayed. The "Pray" scene in the film takes place at the Pataudi Ashram Hari Mandir in Delhi. India has a competitive advantage over other nations due to the low cost of travel to India and the availability of many low-cost alternatives. It's also where yoga had its start, according to legend. In order to succeed as a Yoga tourism operator, teacher, or service provider, you must build on this assumption and deliver world-class services and genuine outcomes to wellness travellers. More possibilities to succeed in the business if you provide Yoga packages that can be used as spiritual tours, a visit to the Taj Mahal, an Indian experience tour, and an adventure trip.

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CLASSIFICATION OF WORLD MANUSCRIPTS SOURCE STUDY OF ABULHASAN MAVARDI PRODUCT “AL-AHKOM AS-SULTONIYYA VA-L-VALOYOT AD-DINIYYA”

Joraev Ziyovuddin Mukhitdinovich*

*Associate Professor PhD of "Source and Archival Studies",
Faculty of History,
National University of Uzbekistan named after Mirzo Ulugbek,
Doctoral Student

DSC of the Department of "Islamic Studies and the Study of Islamic Civilization ISESCO",
Faculty of Islamic Studies, International Islamic Academy of UZBEKISTAN

Email id: juraev741@mail.ru

ABSTRACT

This article describes the work of Abulhasan Movardi, who lived in the years 964-1058 which made a significant contribution to the development of the history of political and legal doctrine and the theory of public administration. In this article we will try to analyze distinctions, sense, composition, structure, basis of primary manuscripts sources of Abulkhasan Ali Ibn Mukhammad bin Khabib Al- Mavardi Al-Basri Al-Bagdadi ash-Shafeyi (964-1058, further Mavardi) product “Al-Ahkom Us-Sultoniya Va-L-Valayat Ud-Diniya” (“Sultan Ahkoms and the management doctrine”) stored in world manuscripts libraries.

KEYWORDS: *Qur’an, Islam, Ahkom, Al-Mavardi, Laws, Government, Election, Sunna, Imamat, Sultan.*

INTRODUCTION

In this article we will try to analyze distinctions, sense, composition, structure, basis of primary manuscripts sources of Abulkhasan Ali Ibn Mukhammad bin Khabib Al- Mavardi Al-Basri Al-Bagdadi ash-Shafeyi (964-1058, further Mavardi) product “Al-Ahkom Us-Sultoniya Va-L-Valayat Ud-Diniya” (“Sultan Ahkoms and the management doctrine”) stored in world manuscripts libraries.

After the death of Mavardi, the requirement for its product “Ahkom” has raised. New data on hand-written copies of his product in east and western libraries have been collected. Actually, till

this time about Mavardi's product "Ahkom" to science, only one manuscript in Kuwait (a copy in Ireland) [№ 4903, № 5085]) had been known.

Manuscripts of the product "Ahkom" belonging to a Mavardi's feather, stored in Fund of the manuscripts, valuable editions and books of National Library of Uzbekistan named after Alisher Navoi (further NLUz A.Navoi), 2 manuscripts stored at Oriental Studies Institute named after Abu Raykhan Beruni of Academy of Sciences of the Republic of Uzbekistan (further OSI AS RUz), the manuscript in St.-Petersburg and, at last, three manuscripts stored in Turkey [№377; №378; №379] - have never been studied.

THE MAIN PART

Even though last years the study of Abulhasan Mavardi works proceeds (in western Europe since 1843), the research of a source study of the product "*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*", based on the manuscripts stored in Tashkent, St.-Petersburg and Turkey, has not been carried out up till now. The given product of Abulhasan Mavardi "*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*" concerning political ethics, and consisting of 20 chapters, since ancient times stored in east states in the form of the manuscript, only now becomes known to a science.

In the course of our researches some manuscripts of this product, not known to science till now, have been revealed: 2 manuscripts in Tashkent [M.№7228/I, PE. № 63], one in St.-Petersburg [№ 6737], and three manuscripts in Turkey [№ 377; № 378; № 379]. In particular, the aforementioned manuscripts were not studied by science especially.

From the aforementioned follows that deep study and the comparative-scientific analysis of all unknown copies of the product, from the point of view of a historical source study, is an actual problem for science.

Below, we have conducted research and the comparative analysis of the manuscript of Abulhasan Mavardi's product "*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*" in a regional cut and a chronological order. Further, for granting of the detailed analysis of the manuscript, basically defined: quantity and the size of pages, writing, calligraphy, a paper, the text, the size of the text, quantity of lines, footnotes, texts on fields, writing of chapters, thoroughness, last phrase, distinction and similarity between any important text of the edition, the numbering of pages, completeness of the text, the paper and ink used, dot letters in writings, spelling at the end of a word: "breakage", "alif", "yo", "te", "nun", "sin", "shin", "sod" and "zod", methods of use of words in the Arabian language, distinctions of the writing of the important terms, archaisms and other prominent features of the manuscripts written in the Arabian language to those time.

Prominent manuscripts features of product "*Al-Ahkom us-sultoniya va-l-valayat ud-diniya*" stored in OSI AS RUz and in NLUz A.Navoi are the following:

The characteristic of the manuscript of Abulhasan Mavardi product "*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*" stored under number M. №7228/I in a treasury of OSI AS RUz

In the collection "Fikhrist of east manuscripts" (CEM. №5797 - № 7228/I) published in Tashkent, under the headings intended for philosophy and related subjects with it: ethics, politics, in didactic parts and chapters the short and abstract data on the manuscript of Abulhasan Mavardi product "*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*" are given. In it it is noticed that the author of the product "*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*" ("*Sultan*

Ahkoms and the management doctrine”) is Abulhasan Ali Ibn Mohammed Ibn Khabib Al-Mavardi Al-Basry (368-450/974-1058).

This manuscript consisting of 20 chapters, concerns well-known political ethics. Handwriting presumably concerns the palaeography of the XIV or XV centuries. The size is 14 x 22,5 sm. The language: Arabian. Other signs: in the end is a lacuna (admission). A writing place: - (it is not known). Year of writing: - (is not known) (has died in 450 on Hijra /1058 on christ.). The copyist: - (is not known), year of copy: - (is not known). The information on the absence of prompts, schemes, drawings is supplied. Some scientists, on the basis of paleographic analyses, assume that the manuscript concerns approximately XIV or XV centuries.

On the basis of the spent researches, in the collection “Fihrist of east manuscripts”, some approximate data about the manuscript of this product is revealed: a place of the manuscript’s writing, the copyist, year of copy; even at underlining about the absence of a writing year, on the basis of our researches it is possible to notice, that product has been written in Bagdad in 445/1053. It is possible to assert that its author was Abulhasan Mavardi.

In the given copy, the name of the author has been missed. The copyist, year of copy: the historical. Paper worms have eaten and have honeycombed the manuscript. Because of long-term storage, the paper is uncombed, and many places are torn. To the above-stated characteristic, it is possible to add the following: the name, a surname of the author of this manuscript have been missed; (year of copy: historical) pages are spoilt by worms; because of long-term storage the paper is uncombed, also many places are torn; total consists from 107 (1^a – 107^b) pages.

The content is given in the main text. The text is surrounded by two red stripes and dark blue colour. The book cover is made completely of leather. Cover and copying times are not specified.

The given product of Abulhasan Mavardi “*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*” begins with the following words: *Bismillahir-rohmaanir-rorhim. Al-imamatu mavzunatun lihilofat in-nubuvvatifi hirosat id-din va siyosat id-dunyo...* (“The first section, about the rights of the Imam (the first head of the state), Imomat, a theme for assistant Nubuvvata, about world politics and religion protection”).

Product comes to an end with following words: *Kama ankaruhu Rasulallohi sallollohu ala Muozin ibn Zhabal hina atola as-solata bikovmihi va kola. Aftaana Anta Ya Maoz. Fain akoma ala-l-atolati va lam an yuaddibahu... Yamtani ya minha lam yazhuz...*

(“Rasullallah (let bless and welcome him Allah)because of long-term reading of a Mohammedan prayer by Muaz ibn Zhabal before a society, has forbidden him such act and has made such remark:“ Hey, Muaz! You postpone and push away the people from religion”.

If the imam for a long time reads Mohammedan prayers before society, and the imam does not want to refuse this act and the decision, in this situation the muhtasib has no right to punish such imam...”).

To the above-stated data, it is possible to add the new idea of A.A.Semenov and D.G.Voronovsky who in their researches conclude: “In this copy, the name of the author and introduction are missed”.

However, from our researches, it became known [this idea is pertinently to note to the second (A) manuscripts of product “*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*” which is stored in

NLUz Alisher Navoi, Subject number №63- Z.J.] that at the beginning of this product the introduction part is given completely. Most important, on the first page of the manuscript name of the author is available.

The important sign of the first Tashkent (B) manuscript is the written phrase on its first page: *musannif al-fakih ash-shayh-ul-olam-ul-alloma al-imom-il-komil-il-fahhoma Abulhasan Ali ibn Muhammad bin Habib al-mavardi al-Basry kitobat...*

In translation it sounds so: “the Author of this product – shaykh of faqihs, the scientist of scientists (worlds), the owner of perfect mind, the perfect person, imam Abulhasan Ali ibn Muhammad bin Habib al-Mavardi al-Basry...”.

Besides, in the characteristic of “Fihrist of east manuscripts”, it is particularly noted, “Other signs and prompts are not present”. Whereas on the forward part of the introduction page there is an image of the rose which is a symbol of a pseudonym of Abulhasan Mavardi and a sign of the arms, and also the seal with a historical view (1^a). Precisely such size and a seals view exists and on Manuscripts of NLUz A. Navoi, subject number №-63.

Amazingly, that only the name of the author noted on a cover, confirms words of A.A.Semenov and D.G.Voronovsky concerning to second Tashkent(A)manuscripts, namely to the manuscript of NLUz Alisher Navoi, subject number № 63. Proceeding from such guesses, and, being based on concrete scientific data, it is possible to tell that the text of this manuscript is historical.

To the resulted analyses it is possible to add the following: the manuscript is of dark colour, a cover is made of dark-red leather, and on it a stamping with a rose pattern is executed. On the cover, the name of the author and time of cover are not specified. The internal part of a cover is dark-green; the pages are painted by light-beige colour etc.

The corrections made above at the description of the manuscript, enriching earlier resulted in presumable characteristics with concrete scientific data, testify that this manuscript is historical.

The content of “*Al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*” (fihrist) in the manuscript is given after bismillah on 1-2^{a-b} pages. Round the text, two strips of red and dark blue colour are given. The book cover is made completely of leather. The time of cover and manuscript’s copy are not specified. The product begins with the following words: ...

Reading: *Bismillah, Alhamdu lillahi allazi avzoha lana maolim ad-din al-h....Ogoz al-bob al-avvalu fi akd il-imomati. Va-l-imomatu mavzuatun lilihovot in-nubuvvati fi hirosat ad-din va siyosat ad-dunyo ...*

Translation: *With the name of Allah mercy and merciful. Praise Allah who has explained to us a basis of religion (Islam) ... “Imamat – beginning of chapter 1 about state administration conditions. Imamat – (management institute) which is after nubuvvat about world politics and religion protection”.*

The product comes to an end with the following words:.....

Reading: ... *Kama ankarahu rasulallohi sallo Allohu alayhi va sallam: ala Muozin ibn Zhabalin hiyna atolla as-solata bi kavmihi va kola: Aftaana Ya Maoz! Fa inna akoma ala al-itolati va lam yamtania minha lam yajuz an yuaddibahu ...*

Translation: “Rasulullah (let bless and welcome him Allah) because of long-term reading of a Mohammedan prayer by Muaz ibn Zhabal before a society, has forbidden him such act and has made such remark: “Hey, Muaz! You postpone and push away the people from religion”.

If the imam for a long time reads Mohammedan prayers before society, and the imam does not want to refuse this act and the decision, in this situation the muhtasib has no right to punish such imam...”).

Names of the given product include: on inside of the cover there are following phrases: ... “*Kitob al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*” (“the Book of laws of the sultanate and Sharia managements”), ... “*Fatovohu sultony bihi*” (“Fetvy of the sultanate of Mavardi”), ... “*Bihidoya*” (“Directing on a right way”), ... “*Fatovohu quzot*” (“Fetvy of qadis”), ... “*Ahkom as-saltanat*” (“Ahkomy of sultanate”), ... “*Sharhi adab al-qozi*” (“the Comment to good manners of kadi”), ... “*Adab al -M...*” (“Good manners of Abulhasan M. (Mavardi)”), “*Talim al-mutaallim*” (“Erudition of the learner”).

On the first page of the inside of this product cover are written surahs of Koran "Fotiha", "Ixlos", "Falaq", "Nos". It is written by close small historical calligraphical naskh-suls handwriting on colour east Indian paper. It is written in the Arabian language. Quantity of lines in the book from the first to the fourth chapter 21, the number of phrases 20-22, the number of letters on each line 70-75.

In the manuscript, the increase or reduction of the number of lines at chapter's heads is marked. For example, from the fifth to the twentieth chapter – 23 lines, the number of phrases 19-22, the number of letters on each line 60-65. The text is written densely. In spite of the fact that in book contents the page numbers of chapters are specified, in the present condition, the chapters of this manuscript are not put down according to the content.

From the very beginning on manuscript pages, the footnotes are put, and in the process of restoring a part of footnotes are cut off. And this further led to the occurrence of some ambiguities at cover and manuscript's restoration. Despite the confused condition of chapters and heads, owing to a serious error of the bookbinder, the product binding has been made.

Even in the absence of other signs and phrases, it is possible to note the following: there is an image of a rose and a sign tugro, being a symbol of Abul Hasan Mavardi, and also the seal with a historical view. Such seal from existing manuscripts exists only on page 82^a of the manuscript of PE. № 63, in other manuscripts it does not meet.

The given book is bound by darkish, darkly - red leather and on the top side, there is stamping with a rose pattern. The name of the calligrapher and binding time is not specified. The inside of a cover is dark green; pages are of beige colour and have original features of a source.

All above-stated data specify that this manuscript is a draught copy, and concretely, it is possible to tell it is a historical and primary source. In particular, the signs of soakage in water from 1^a to 19^a manuscript pages are kept. But water has influenced no one letter.

Besides, as a result of researches on this manuscript of product “*al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*”, in seven chapters some heads are confused one after another, the cover is made on the contrary, inconsistent to chapters and heads. For example, in this manuscript during repeated binding of the book the sections, VI, VII, XII, XIII, XVII, XVIII have exchanged. Also,

have exchanged places of 28^a, 29^a, and 30^a pages of chapters 1-2-3 of section V and of chapters 2-3-4 of section VI.

Have swapped places of pages 39^a, 40^a, 41^a, 51^a - 81^{a-b} of II and XI sections;

Have exchanged pages 67^a, 69^{a-b} of II and XIII sections;

Have swapped page places of 36^{a-b} and 37^{a-b} of II and XIII sections. The place is swapped of XVII and XVIII sections, namely are exchanged places for example of pages 83a, 85^a, 86^a of XVII and XVIII sections, that is chapters of section XVII are placed on pages 85^a, 86^a of section XVIII. Page cover of 87b has been made inversely and added to 84^{a-b} page.

Page continuation of 88^b is in the turned position added to page 87^a. Page continuation of 83^b results on page 88^a. The following 5^{a-b} pages after 88^b page is completely lost, and the text unreasonably is continued from page 89^a.

In the characteristic "Fihrist of east manuscripts" it is told about the manuscript "comes to an end with silence...", but particularly it is not shown, how many sections, chapters and pages are lost from the text.

As a result of the analysis and correction of this presumable and erroneous data, it is possible to tell, in the course of careful studying of the manuscript it is defined that parts of the last two pages of the text of product (108-109/116-17^{a-6}) have been lost.

Besides, as a result of the spent comparative analyses, the presence of considerable losses of pages inside the sections has been established.

For example, some pages and chapters of four (XII, XVIII, XIX, XX) manuscript sections are lost. At definition in research of quantity of the lost pages have come to the following result:

In the manuscript "*al-Ahkom us-sultoniyya va-l-valayat ud-diniyya*" some chapters and pages of four sections are lost. In particular, lost pages of sections and chapters of the manuscript of "*al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*" are the following: two^{a-b} pages of chapters 1-2 belonging to section XII; five^{a-b} pages of 6 chapters: 3-4-5-6-7-8 belonging to section XVIII; 1^{a-b} page of chapter 9 belonging to section XIX; 2^a pages of last three chapters belonging to section XX, in total it is defined the losses of 10^{a-6} pages and twelve chapters of the given manuscript and repeated restoration of text [6] is made.

Comparing the text of the given manuscript "*al-Ahkom us-sultoniyya va-l-valoyot ud-diniyya*" with manuscript NLUz A.Navoi and with the edition text, have managed to restore its lost parts (ten^{a-b}) in the following kind:

1) 12 sections of product "About distribution of loot and trophies", consists of 4 chapters, two^{a-b} pages belonging to chapter of loot and trophies are lost.

2) the eighteenth section of the product is called "the Basis of secretary and zikra of ahkoms and consists of eight chapters from them following six chapters 3-4-5-6-7-8: "Definition of "kifoya" salaries to an army and its quantitative sufficiency", "the Second part – office supervising the official rights of special "amals" (the manager, mazalim)", "The third part – secretary to the destination of amals (manager) for works on a speciality (taklid and azl) and their dismissal". "The fourth part – works on arrival and the expense "of the byte al- mol treasury". "Sohibi zimmy – secretary of the Gentiles, living in the Muslim state and their duty" (Only a part of the final chapter to 89^a page) have been lost.

1) Nineteenth section “About punishment structures [methods of criminals punishment on the basis of the established laws], consists of 9 chapters, from them the ninth chapter, namely the chapter on the theme “Specifications of punishment by a stick beating” is lost.

2) The last twentieth section of the product - about ahkoms of hizba, consists of ten chapters, from the chapters of following themes: concerning forbidden affairs, about the negation of affairs, forbidden and suspicious to lechery, to usury and forbidden actions in trade (weights and scales) and depravity, about Fas lun fi-l-qism-is-saani va huva maa ixtassa bi-l-'a'moli min rusumi va huquqi.

CONCLUSION

The rights of fair people, a thing is forbidden by Allah (prohibition of sly and insidious affairs conducting to forbidden), general law between human rights and the supreme Allah and the things, forbidden by Allah, have been lost.

If to judge on research conclusions, the total amount of the manuscript of the product of Mavardi “*al-Ahkoms us-sultoniyya va-l-valoyot ud-diniyya*” of OSI AS RUz possibly consisted from 2^{a-b} - 117^a sheets. Actually, on a today's condition to total does not suffice ten $^{a-b}$ sheets ($107^{a+} 10^{a-b} = 117^{a-b}$ or has remained in a normal state $117^{a-b} - 10^{a-b} = 107^{a-b}$ sheets).

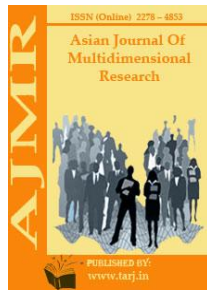
Text volume: now the total amount of the given manuscript is from 2^{a-b} to 107^{a-b} . The content on total consisted of 117^{a-b} pages. In particular, inside the sections eight $^{a-b}$ pages, also the last 3 chapters of section 20, two $^{a-b}$ pages are lost; therefore the text of this product is defective and imperfect.

At the end of the manuscript there is a seal, and lower it is possible to read words “This blest book is copied under the official order of Mister Akzo al-kuzo (for those times it meant: chief kadi - the higher judiciary, the Prime Minister, the general public prosecutor) Sharifiddin Kasim (his well-known status Karim ibn Hoda as-sabuni al-Buhari)”.

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WAYS TO SOLVE PROBLEMS IN THE PRODUCTION OF KNITWEAR

M. M. Ulugboboyeva*; **X. Sh. Tursunova****

*Department of Light Industry Technologies and Equipment,
Fergana Polytechnic Institute, Fergana, UZBEKISTAN

Email id: mavjudaulugboboyeva@gmail.com, hilola.tursunova1988@gmail.com

ABSTRACT

Today, the textile and light industry plays an important role in the economy of the Republic of Uzbekistan and plays a central role in the production of industrial products. The industry produces consumer goods, which in turn saturate a large part of the market. In addition, the sector provides a large number of jobs to the country's population, including the employment of mostly women in the sector, which allows maintaining the demographic balance in industrial areas. The light industry, including the textile industry, is making a significant contribution to meeting the material, spiritual and cultural needs of our people. This article discusses the problems of the development of the knitting industry in Uzbekistan.

KEYWORDS: *Textile Industry, Light Industry, Environmental Problem, Knitwear, Raw Material.*

INTRODUCTION

It is a great pleasure and pride for all of us that as a result of the implementation of our chosen strategy for the development, renewal and modernization of our country, our country has become one of the few countries in the world to achieve sustainable economic and social development. The main goal of the formation of the market economy in Uzbekistan is to turn production based on the formation of effective management systems of the socially oriented economy towards the will of the consumer, creating objective conditions for the promotion of labour, creativity, initiative, high productivity, ensuring economic freedom of citizens. While the market mechanism allows for the rational use of

labour, material and financial resources, on the other hand, it requires the flexibility of production technologies, the constant application of scientific and technological advances in economic activity.

THE MAIN PART

After gaining independence, the President of the Republic of Uzbekistan set the following tasks for the light industry: Creation of new production facilities, development of the sewing industry, which can attract a large number of private and state-owned enterprises, increase the production of spinning, weaving, decoration, knitwear, which can create jobs.

We need to learn to trade raw materials with ready-made products, not with cheap semi-finished products. Solving the above tasks requires a radically new approach to the production of quality finished products. One of the ways to create the competitiveness of finished products is to produce high-quality and affordable knitwear. The scientific approach to the expansion of the range of finished products requires the development of design and technology based on the analysis of the concept of "raw materials - knitwear". Solving the above tasks requires a radically new approach to the production of quality finished products. One of the ways to create the competitiveness of finished products is to produce high-quality and affordable knitwear. The scientific approach to the expansion of the range of finished products requires the development of design and technology based on the analysis of the concept of "raw materials - knitwear". Due to its comfort, high hygienic, aesthetic and ergonomic requirements, knitwear has a large place in the wardrobe of men, women and children in the XXI century.

The production of knitwear has been known in the history of mankind for centuries. A search of the Egyptian pyramids turned up a variety of knitwear.

From the 5th century onwards, hand-knitting was introduced in the Arab world, and from the 11th century onwards, the production of knitwear entered Europe. Workshops were set up in England, France, Germany and the Czech Republic to produce knitwear. In those days, socks, scarves and hats were mostly woven using a knitting needle. The first knitting machine was invented in 1589 by William Lee. This machine will be a breakthrough in the history of knitting. The Republic of Uzbekistan is moving forward on the path of independent life to a bright future. Over the past period, several practical steps have been taken to strengthen our independence

politically and economically. Today, the main task is to process our raw materials and produce finished products for the world, to build new knitting enterprises to fully meet the needs of the population in knitted goods, to use modern technology and machinery to renovate existing enterprises. Construction and equipment are to raise the quality of products to world standards. The fulfilment of these tasks depends primarily on the training of highly qualified personnel. The knitwear industry produces knitted fabrics, including technical fabrics, socks, accessories, underwear and outerwear, gloves, hats, scarves, and industrial and medical products. Yarns made of cotton, wool and man-made fibres are widely used in the production of knitwear. The weight of knitted garments is constantly growing. This is due to the high service life and cost-effectiveness of knitwear. The steady growth of the production of chemical fibres, especially synthetic yarns, and the rapid development of knitting production techniques have greatly contributed to the development of the knitting industry.

The main directions of development of knitting production techniques and technologies are the creation of automated continuous lines for the production of cloth and socks, the acceleration of production processes by replacing equipment with more efficient, continuous processing of fabrics using organic solvents; specialization of enterprises in the production of various goods.

The main element of knitwear is the ring. Knitting is determined by the formation of rings. Knitted knits consist of cross-loop and basic knits. In transverse weaving, the rings are formed one after the other. There are several threads involved in

weaving the base. Businesses use more glad and lats. Each ring consists of the following main parts: half of the plate arc, ring blades, needle arc, loop step, the height of the loop. The shape of the ring is defined as follows. $Sh \cdot V / AV$ is the height of the ring A is the ring step.

These are called loop columns or loop rows, the density of which is equal to 50mm. $Pg \cdot 50 / A$ $Pv \cdot 50 / V$ Knit density is 35-175. Up to 100 of the finished product. Figure 1. Ring drawing One of the key features of a ring is the ring module. $N \cdot L_n / d_{sh}$; L_n – ring length; d_{sh} – conditional diameter of the thread;

The raw materials for knitwear are cotton, silk, wool, silk, synthetic yarns in the same or a mixture. Mixed yarns are obtained from this wool cotton, cotton staple fibre, wool staple fibre. Utski, underwear, cardigan, shirt, coat, etc., depending on the use.

Knitwear is divided into two types: fabrics and finished products (hats, scarves, socks, gloves, etc.). Knitted fabrics or canvas are available in smooth, floral and faux fur. Fabrics are mainly used for sewing products. Artificial fur is used as a coat, hat, collar and lining. Knitwear is divided into 6 classes depending on the use: underwear, socks, gloves, scarves, shawls, hats. Each class is divided into groups. There are raw, bleached, coloured or small floral weaving techniques for decoration. Knitted fabrics are divided into two groups - underwear and outerwear. The first group of fabrics include T-shirts, panties and so on. The second group of fabrics is used in the manufacture of jackets, shirts, suits, coats, jackets and other items.

The advantage of knitted fabrics is their softness, abrasion resistance and high elasticity. They have excellent folds, no wrinkles, heat retention and hygienic properties. At the same time, knitted fabrics are difficult to sew and sew due to their elongation and twisted edges. Knitted fabrics stretch lengthwise and widthwise when washed and even chemically cleaned. Knitted fabrics are used to sew the outer garments horizontally and vertically. For sewing shirts, suits, blouses, women use chiffon knitted fabrics made of fluffy soft jacquard, velvet fabrics made of feathers, silk, lace fabrics made of voluminous kapron yarn, etc. The design and modelling of knitwear take into account the characteristics of elongation, flexibility, elasticity, as well as technological processing. The design and technical solution of knitwear depend on the degree of elongation of the fabric. Knitted fabrics are classified according to the degree of elongation and deformation, as well as the characteristics of the raw material. According to the classification, knitted fabrics are divided into 3 groups: the first group includes short-length knitted fabrics, the second group includes medium-length fabrics, and the third group includes easy-stretch fabrics. This information is a basic tool in the design of knitwear.

The value of the weave allowance, which takes into account the elongation of the knitted fabric, is given in the documents and standards of the general technical conditions applicable to the enterprise. The design solution of the details in the design of low-elongation, shape-retaining knitted fabric is similar to the design solution of products made of woven fabrics. Knitted fabrics with high elasticity stick to the body due to the elasticity of the fabric in the design of the fabric.

The design takes into account the appearance, structure, properties and function of the fabric. Straight, sticky, and trapezoidal extended silhouettes are common in knitwear. The deformation

properties of the knitwear are taken into account in determining the elasticity of the knit along the chest line. Its value is smaller than that of fabrics. At present, for a range of knitwear, the total weave value has been determined based on practical experience.

$P_g = 1-4$ cm for jumpers according to fashion trends; jackets tip 2-5; 4-6 cm for jackets. From the easily stretchable canvas, the addition of underwear can be taken as 0, or it can be a negative number because the required expansion of the details of the product during operation is provided by the stretching of the canvas. Most of the total attachment (50-55%), which is distributed between the construction sections as follows, is allocated to the width of the back and front sections, and 25-30% to the width of the rear and front sections, respectively. The design of knitted items includes the addition of $P_{m.n}$ to the thickness of the fabric and the input fee P_{pos} to form the desired volume. $P_{m.n} = 0$ for knitted fabrics with a thickness of 0.3 cm for the first and second stretch groups, and $P_{m.n} = 1.5$ cm for fabrics with a thickness of more than 0.3 cm. In addition to the thickness of the canvas, it is distributed as follows: 0.3 $P_{m.n}$ -back section; 0.3 $P_{m.n}$. 0.4 $P_{m.n}$ -front section. According to the method of construction of knitted goods, the value-added of the fabric thickness is taken into account in determining the vertical lines of the base net in the basic design drawing.

Knitted fabrics with high elongation are provided by inserting a three-dimensional shape instead of twigs along the shoulders, side seams and shoulderlines.

Its value depends on the quality of the knitted fabric and the design of the product. The location of the vertical lines of the base net is calculated by the following additions: "Pl.sh", which takes into account the line of the shovels (in practical calculations, 1 cm is taken); P_{obsh} , a generally flattened appendage along the chest line; in addition to the thickness of the canvas - "Pm.n"; backwidth - "Ps"; in addition to the width of the anterior segment, "Pp", the thoracic cavity is reduced by 1 cm.

The process of processing knitted goods consists of the following steps: joining the details, finishing them and the final wet-heat treatment. The choice of processing methods depends on the design of the product, the characteristics of the knitted fabric, equipment and devices, technological mode and parameters.

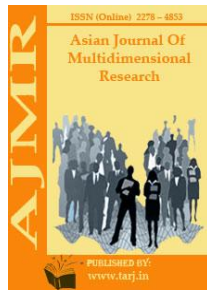
Knitwear is known to provide moisture and heat treatment under the influence of moisture, heat and pressure at the rate of qt . Under the influence of moisture and heat, knitwear quickly undergoes various deformations. Therefore, after the knitwear is subjected to moisture and heat treatment, it is cooled and dried.

CONCLUSION

Taking into account the elongation properties of knitted fabrics, clothes and coupons, moisture heat treatment is provided at a set temperature: 130-135 °C for woollen knitwear, up to 120 °C for cotton and linen knitwear, up to 120 ... 130 °C for viscose fibre knitwear, acetate up to 95 ... 100 °C for fibre knitwear, up to 60... 70 °C for polyester fibre knitwear. When the wet heat treatment exceeds the above-mentioned norm, the knitwear may lose its colour and strength. Knitwear should be processed under a small pressure ($0.49 \cdot 10^4$ to $4.9 \cdot 10^4$). Otherwise, as the pressure rises, the relief and width will be lost and shiny spots will appear on the surface of the canvas.

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PROFESSIONAL AND COMMUNICATIVE COMPETENCE OF THE FUTURE TEACHER OF THE GERMAN LANGUAGE AND ITS DIDACTIC MEANING

Sokhibakhon Yakubovna Abdullayeva*

*Professor,
Head of the Languages Department,
Academy of the Armed Forces of the Republic of UZBEKISTAN

ABSTRACT

This scientific article discusses the communicative methods of teaching the subject of German and its didactic meanings. Today there are many opportunities to learn foreign languages (German) in practical classes. The issues of professional and communicative competence of future German language teachers are discussed from the didactic point of view, and the research of scholars who have conducted research in this field is also mentioned.

KEYWORDS: *Professional Competence, Sociolinguistic Competence, Communicative Method, Specific Features, Communicative Function.*

INTRODUCTION

In recent years, foreign and domestic studies have been developing the theory of professional competence of future teachers of a foreign language as a theory of speech behavior. In accordance with this theory, it is supposed to teach language not so much as a system of rules and their use in speech, but for the purposes of productive communication, to establish cooperative relations with others, to coordinate and coherence of speech actions aimed at assimilating social contacts and developing a strategy of behavior in order to avoid conflicts.

The main components of the professional competence of teachers of a foreign language: grammatical competence, sociolinguistic competence, speech competence, speech behavior competence are highlighted in the works of K.E. Bezukladnikova, I.A. Winter, V.V. Safonova, E.N. Solovova.

The grammatical competence that owns the linguistic code includes vocabulary, morphology, syntax of a foreign language and is expressed in language proficiency at the grammatical level.

K.D. Riskulova has an opinion that sociolinguistic competence is “the socialization of the speaker in the communicative process based on the essence and significance of events in public life in accordance with the requirements of his speech and the speech technique of others” .

P. C. Butaev believes that “an integral part of linguistic competence is the grammatical competence of students, research based on the principle of the unity of language and culture of the semantic structure of lexemes” .

METHOD AND MATERIALS

The basic requirements for a teacher of the German language at the level (B2) are defined in the studies of Yu.V. Eremina and E.V. Martyushova , which are necessary for the formation of his professional competence:

- The ability to conduct a dialogue, in various speech conditions (everyday, social and journalistic, scientific, professional and pedagogical) to compose a monologue;
- Understand modern social and political information, as well as original literary and artistic texts, be able to analyze fiction;
- Regardless of the stylistic functionality of the text - the culture of reading in a foreign language;
- Be able to correctly express their thoughts in writing in different styles and in graphic and spelling terms;
- The ability to annotate literature and abstract it;
- The ability to carry out linguistic analysis of fiction, journalistic and other texts;
- For students of different grades, the ability to adapt original texts;
- The ability to make translations.

In the course of researching the work of scientists, we came to the conclusion that the most effective competencies that form the professional competence of future teachers of a foreign language are:

- Possession of speech skills in practice is speech competence;
- The ability to build an utterance in accordance with a certain speech situation refers to discursive competence;
- Possession of phonetics, vocabulary, grammar, syntactic rules of application refers to linguistic competence;
- Knowledge, skills and experience based on the mentality of the speech environment of speakers of a foreign language, forming the ability to emphasize specific features in the culture of a given language lies in the socio-cultural competence.

RESULT AND DISCUSSION

The analysis made by us also allowed us to come to the conclusion that in order to form the professional competence of future teachers of the German language, it is necessary to determine their didactic functions.

These didactic functions include:

Communicative function, which develops competencies such as:

-The ability to explain the specific tasks of each lesson;

-The ability to determine the volume, form, ways of communicating information about the language studied material, including the independent performance of actions to master the language material;

-As a means of communication, the ability to orient students regarding the situation and conditions of using a foreign language, taking into account certain types of communicative actions (message, request for information, assessment, argumentation, etc.);

Motivational function, which forms the desire of the future teacher to build his speech in a foreign language in accordance with the speech environment:

-The ability to create didactic games in order to arouse interest in the future teacher;

-The ability to develop solid knowledge of students with the help of speech exercises and communication tasks;

Predictive-constructive function, which relies on the competence of control of students' knowledge with subsequent analysis of typical communicatively important errors in the process of learning German, identifies their causes, applies methods of preventing and correcting them, if necessary, making changes to the methodology of the teaching system of future teachers and teachers ...

Developing pedagogical function, designed to form the skills of independent work of the future teacher in the process of teaching the German language. To develop the ability to outline the ways of the formation and development of the intellectual, sensory, emotional spheres of the personality of future teachers. Cognitive powers and abilities, taking into account the identified opportunities, the specifics of the content and process of teaching the German language and in extracurricular activities. The implementation of the developmental function presupposes the presence of such methodological skills as:

-Generalization of linguistic facts, the ability to analyze them;

-Independently draw conclusions about speech and language patterns;

- to develop in the process of listening, speaking, reading and writing various types of memory that provide storage, recognition and reproduction of speech and language units;

-Be able to improve the imagination, to recreate the situation of communication with elements of reincarnation:

-To form the skills for independent work (preparation) with the language in the classroom and at home in various types of speech activity;

-To develop cognitive powers and abilities in extracurricular extracurricular work and in extracurricular activities. (Timokhina E.V.)

The upbringing function, which includes the following general methodological skills and is associated with the formation of the upbringing of the future teacher in the process of preparing him for extracurricular work in the German language:

-Making the most of the German language learning process and extracurricular work to foster internationalism, respect to the cultural traditions, literature and art of the people, the language that is being studied;

- About the country of the target language, selection and interpretation of educational material;
- Forms of education of social activity and finding ways of independence of the future teacher;
- Obtaining initial vocational training and creating conditions for a conscious choice of a profession;
- Fostering in the future teacher the need for self-education and improvement in the German language, will, discipline, diligence, respect for work:

The gnostic function, where the structures of the content of the academic subject are based on knowledge of the peculiarities of mastering various types of speech activity, methods of teaching it, on a deep understanding of the ultimate goals of teaching the German language, on knowledge of the specifics. An important role is played here by the ability to highlight the essential features in the curriculum and textbooks for each stage of education and the properties of the objects of assimilation, as well as knowledge of the cognitive capabilities of students and the sources of difficulties in assimilating the presented educational material. All other structural and operational functions allow the creative implementation of precisely gnostic skills.

Organizational function aimed at the implementation of a previously drawn up lesson plan. It includes the following skills:

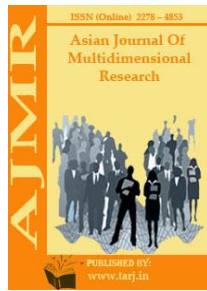
- To organize the classroom team and pedagogically and purposefully manage its activities, take into account the development of the team in mastering the German language throughout the entire course of study;
- To organize their activities and the activities of future teachers in order to implement the planned lesson plan;
- To organize individually-collective, group, cognitive activities of future teachers;
- When mastering communicative activity, combine frontal and individual forms of work (frontal and group, individual and group, individual and frontal), taking into account the characteristics of each of the forms, depending on the stage and stage of work on the material;
- Use audiovisual teaching aids;
- To carry out accounting, control and correction of educational and communication activities of future As the activity of the future teacher of a foreign language, the function of the organizer of intercultural communication is determined, which integrates special knowledge and skills, their application in practice. The personal qualities of the future teacher are professionally important, aimed at introducing them to the implementation of intercultural communication. In order to fully realize this function, the future teacher must have a system of certain knowledge:
 - To know the interests of the future teacher in order to anticipate them;
 - To know the typical cases of difficulties (in the study of the regional component) observed in the process of translating common goals into personally significant ones for every future teacher;
 - To know the history of the native land and the modern life of the regions of Germany;
 - To know and take into account the complex nature of the goals of teaching the German language when teaching the regional component.

A controlling function, which is to determine the level of language proficiency achieved by students during a certain period of study.

It should be noted that in order to effectively form the professional competence of future teachers of the German language, it is necessary to determine its didactic functions. We refer to didactic functions: communicative, motivational, prognostic-constructive, developmental and pedagogical, upbringing, gnostic, organizational and controlling functions.

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LINGUOCULTUROLOGY IN LINGUISTICS FEATURES OF LINGVOKULTUREMAS IN THE CREATIVITY OF RAUF PARFI

Shofqorov Abdushukur Musayevich*; **Komilova Gulmira Temirovna****

*Associate Professor,
Candidate of philological Sciences,
Chirchik Pedagogical Institute,
Department of Uzbek Language and Literature,
Tashkent Region, Chirchik City, UZBEKISTAN

**Teacher,
Native Language and Literature of the 7-Secondary School of Chirchiq City
Master's Degree at the Faculty of languages and History,
Chirchiq Pedagogical Institute, UZBEKISTAN
Email id: gulmira.komilova@cspi.uz

ABSTRACT

This article contains scientific information about linguocultures and their role in Rauf Parfi's creativity. The features of lingvokulturema are scientifically understood. Linguo culturemes include words that reflect a part of culture, phraseological units, vocabulary, sentences, paremias, complex syntactic integrations, texts, etc. Lingvokulturema has a plan of content and expression, the plan of expression is the above-mentioned units, the plan of content is the semantics of those units. Hence, linguoculturema differs from Concerto in that it has its own plan of meaning and expression; the main task for linguoculturology is the manifestation of folk culture in linguistic form. In his opinion, the concept of "linguoculturema" "is useful for comparative linguistics, " zero language is a cultural fact, it is part of the culture that we inherit, and at the same time it is also a weapon.

KEYWORDS: *Linguoculturology, Research, Phenomenon, Language, Linguoculturema, Conjugationept, Verbal, Poetic Content.*

INTRODUCTION

In the 90 – ies of the XX century between linguistics and culturology appeared a new field of science, linguoculturology (linguomadeniology). He was recognized as an independent direction

of linguistics. Almost all researchers on the formation of linguoculturology believe that the root of this theory is V. they claim that the background goes to Gumboldt.

V. who created serious research in the field of linguoculturology. A. Maslova divides the development of this sphere into 3 stages:

- 1) The creation of preliminary studies that motivate science formation (V. Background Gumboldt, E. Benvnist, L. Vaysgerber, A.A. Patebnya, E. Sepir) works of linguists such as);
- 2) The separation of linguoculturology as a separate field;
- 3) The stage of development of linguoculturology;

By the beginning of the 21st century linguoculturology became one of the leading directions in the world linguistics. Linguoculturology tilni as a cultural phenomenon is a learning science, language and culture that are interrelated constitute its subject. Included V.N. Telia writes about this: "Linguoculturology is a science that studies the human factor, more precisely the cultural factor in man. And this means that the linguoculturology center is a complex of achievements inherent in the anthropological paradigm about Man, which is a phenomenon of Culture "[1]

V.V. Vorobyev "linguoculturology is a branch of Komplex Science in the category of synthesizers, which studies the interaction and interactions between culture and language. This process, as a holistic composition of units with a single linguistic and non - linguistic (cultural) content, reflects this process with the help of systematic methods aimed at modern influential cultural priorities (universal norms and values)." O professor of the different aspects of these concepts. Yusupov comments below. "Linguoculturema is a unit of language or speech that reflects a part of culture in its semantics (meaning).

Linguoculturemes include words that reflect a part of culture, phraseological units, vocabulary, sentences, paremias, complex syntactic integrations, texts, etc. Lingvokulturema has a plan of content and expression, the plan of expression is the above-mentioned units, the plan of content is the semantics of those units. Hence, linguoculturema differs from Concerto in that it has its own plan of meaning and expression; the main task for linguoculturology is the manifestation of folk culture in linguistic form. In his opinion, the concept of" linguoculturema "is useful for comparative linguistics, " zero language is a cultural fact, it is part of the culture that we inherit, and at the same time it is also a weapon. Folk culture is transmitted through language, literally the basis of the culture of language, moving the basic concepts and expressing them in the form of signs, that is, through words" [2]

If culturology studies the nature of a person's self-consciousness in the fields of Nature, Society, art, history and other social and cultural existence, linguistics studies the reflecting worldview in the language as mental models of the linguistic landscape of the world. And the main research subject of linguoculturology is both language and culture, which are in a state of constant interaction.

"Culture "is derived from the Latin word Colere, which means" processing, upbringing, development, respect, prayer". Since the XVIII century, the term" culture" began to be used in relation to all that is the product of human activity. All these meanings were preserved in the application of the word" culture", but in fact this word meant" the purposeful influence on the nature of Man, the transformation of nature for the benefit of man, that is, the treatment of the Earth" (agricultural mining). Later, the term" culture" began to be used even in the praise of

knowledgeable, educated, highly educated people. At present, the term "culture" is known to be used in more than 500 variants in various fields of Science and Practice [3].

Summarizing the definitions given to culture, it is possible to describe culture as "the sum of all material and spiritual wealth created and created by mankind in the process of historical development". Based on this, two types of culture are distinguished: 1) Material Culture; 2) spiritual culture; material culture means "second nature", created due to human activity, that is, means of production, labor weapons, labor skills, as well as all the wealth that serves for Life created in the process of production.

The coverage of spiritual culture is vast, it covers all forms of social consciousness, namely philosophical, scientific, legal, moral, aesthetic, religious views, enlightenment, education, school, secondary and higher education, science, cultural institutions, media, art, all kinds of people's spiritual creativity. Material and spiritual culture is inextricably linked with one another, complementing the other. For example, it is impossible to create and improve some kind of material wealth without human intelligence, thinking, and intellectual labor. [4] It means that spiritual culture also lies on the floor of restoring material culture. Pearls of any material and spiritual culture arise on the basis of the synthesis of human intellect and physical labor. Spiritual enlightenment is a means of artistic reflection and mastering of reality. Material culture is closely connected with the material conditions of life of the world and people, and spiritual culture with customs, traditions, traditions, rituals and national values.

The work of Rauf PARF is characterized by a specific theme and poetic content, a world of images, genres and poetic forms, language and stylistic methods. These issues determine the relevance of our work. Doctor of philological Sciences, well-known professor Hamidulla Boltabayev, while thinking about modernism and new Uzbek poetry and about its teaching, admits that by the second half of the XIX century, the rules of beauty, which were in use for five hundred years after the colonial chain of the National neck, began to earn a career as an activity.

There are many lingvokulturemas in the creation of Rauf Parfi. In particular, in this passage, an anthroponymic lingvokulturema was used:

Abut-Turk tarixdan balki bir hikmat
Biroq sen borsan-ku Turon elinda.
Shoir, So'z aytmakka sen shoshma faqat,
Ulug' **Alisherning** qutlug' tilinda.

Here in this passage are also three anthroponymic linguistic lexemesraydi:

Navoiy baytiga o'xshaydi yo'llar,
Bu toshlar **Hamzaning** qotili, hayhot!
Nahotki umrbod o'rtasa o'ylar,
Umrbod zanjirband etsa xotirov?!

In the following passage, also lingvokulturemas threeraydi. They are crib and mom lexeme.

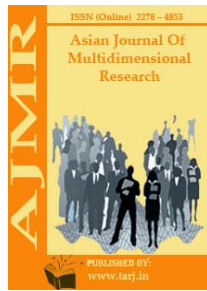
Ul olis quyoshdir kuyinib yonar,
Olis xotirotlar o'chmas falakda.

Haqdan, Hakiqatdan ko'ring, Kim tonar?
Dunyoviy alamning tiyg'i yurakda.
Vatan deb atalgan **beshtik**, **onajon**,
Men uchun yopilgan eshik, **onajon**,
Men sokin sollanib ilg'ab borarman.
Vatan deb atalgan tobut qo'ynida,
Chualgan bulutni qordek qorarman,
Ruhimning panjasi chaqmoq bo'ynida.

The study of the reflection of the above-mentioned peculiarities in the culture of different peoples in the language is one of the main tasks of linguoculturology. Although linguoculturology is a young, new field of linguistics, but in it phraseological, konsological, lexicographic and lingvodidactic directions began to form. The main task of this science is to study the related side of language and culture, that is, the ways in which cultural concepts are expressed in the language and its various means, to describe the interaction between language and folk mentality. A number of scientists in Uzbekistan, in particular, A.Abduazizav, D.Ashurova, Sh.Safarov, O'.Yusupov, A.Mamatov and other researchers made a significant contribution to the field of linguoculturology. Linguoculturology is a science that studies the interaction of culture and the status of the process of application of language. Linguoculturological research is carried out on an interdisciplinary scale, which includes sociolinguistics, ethnolinguistics, Psycholinguistics, linguomamlakatistics, culturology and others.

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ESTABLISHMENT OF A NATIONAL CORPUS THE UZBEK LANGUAGE IS A REQUIREMENT OF A NEW ERA

Guli Toirova Ibragimovna*

*Associate Professor,
 Doctor of Philosophy,
 Bukhara State University, UZBEKISTAN
 Email id:tugulijon@mail.ru

ABSTRACT

The article is scientifically substantiated by the need to create a national corpus of the Uzbek language. Suggestions are given on the structure of the corpus, the program interface, the algorithm of the program, the technology for obtaining the results. Based on the experience of world scientists, the requirements for the data encoding format for the national corpus of the Uzbek language are described. The article says that the interface of the national corpus and the author's corpus has a different design, structure, its improvement is the responsibility of the author of the corpus, and the interface should evoke the first impression of the corpus, an attractive appearance. The interface should take into account decorations that reflect the national color, as well as symbols reflecting the classics or modernity, the interface should reflect the life and work of the artist, the works created by him should open in separate windows, partly in photo galleries. The types of internal and external interface are also discussed. The article analyzes the linguistic module and algorithm and its types from independent components of linguistic programs. The need for an algorithm for phonological, morphological and spelling rules for the formation of the lexical and grammatical code is scientifically substantiated. The importance of language modules, such as phonology, morphology and spelling, in the formation of the linguistic base of the national corpus of the Uzbek language is emphasized.

KEYWORDS: *Corpus, Coding, Transformation And Graphic Analysis, Technological Process, Automatic Marking, Metadata, Text Information Of A Large Array, Morphological Marking, Spelling Module, Morphological Module, Linguistic Module, Phrase Modules, Word Algorithm, Formula Algorithm, Tabular Algorithm, Graphic Algorithm.*

INTRODUCTION

In world linguistics, by the second decade of the twenty-first century, the creation of language corpora on the Internet is the main means of maintaining a particular language, expanding its field of research and demonstrating language skills. In particular, computer technology, which is the great invention of the twentieth century, opens the door to a wide range of possibilities for linguistics as well as other fields and poses important challenges for the computer language, the emergence of computational linguistics is critical to the success of natural languages.

In global language studies, the study of linguistic language modeling, the development of algorithms for lemming words and tags, as well as the electronic use of oral and written monuments, samples of spiritual heritage created in a specific language, in order to increase the use of national and cultural heritage. Particular attention is paid to the processing of information using computer technology, the development of the necessary methodological and software for the introduction of information resources, the development of the language corpus on the Internet and, based on this, the scientific and theoretical aspects of the national language.

In Uzbek linguistics, various studies have been carried out on automatic translation, the development of the linguistic foundations of the author's corpus, the processing of lexicographic texts and linguistic-statistical analysis. Particular emphasis was placed on "improving the education system and increasing the ability to provide quality educational services." Considering that raising the international status of the Uzbek language to the level of the world language of communication, studying and teaching the Uzbek language abroad, expanding the possibilities and polishing our national language can be achieved directly through the national corpus "Theoretical and Practical Issues of the Uzbek National Corpus". In this sense, it is necessary to further deepen the research of the linguistic foundations of the text corpus and the national corpus, the technology for creating its software.

Modern information technology has opened the door to a wide range of usability of language through artificial intelligence that it can perform many of the functions that the human mind can perform. It has been suggested that it was created to make people's time easier. The development of computer technology has led to the creation of electronic resources such as electronic dictionaries, translation portals, a terminology database, virtual (electronic) library, electronic text corpus, electronic government, electronic publications, electronic textbooks and manuals. Artificial intelligence consists of algorithms and software systems designed to perform a variety of tasks, and it can perform a range of tasks that the human mind can perform.

If we compare the human thinking system and artificial intelligence, we can conclude that human thinking has the advantages of being creative, flexible, capable of using emotional perception using a comprehensive, all-encompassing knowledge. It has the following disadvantages: complex conductive (expressive), unable to quickly document, unstable human thinking. An information retrieval system has the advantages of consistency, ease of presentation and uniformity, and easy documentation. It also has a number of disadvantages, such as the fact that it is artificial, limited, preprogrammed, of course, using symbolic perception and special knowledge. By analyzing the advantages and disadvantages of both systems, it has been proven that the main advantages of human thinking, including in many areas such as creativity, ingenuity, information transfer and content in general, are superior to artificial intelligence.

The linguistic corpus is not only the presentation of available information in the form of text, but also the analysis of the text, which, in terms of its analytical ability, is considered better than an electronic library.

Differences between the electronic library and the linguistic corpus: the search unit of the electronic library is the text of the entire work. You can search for a specific work in it. The source providing automatic search for information on the Internet is an electronic or virtual library. The electronic library has a different name. For example: virtual library, e-library, e-library, e-library. In such a library, books, magazines and newspapers will be located in the computer's memory, and not on the bookshelves. It comes in the form of a set of data stored digitally on a computer or a special device on a computer. Such data can include print, audio, video and multimedia data. There is no need for a special place to store books, since the site contains various information from the electronic library. This page is regularly visited, collected and filled in by specialists from a special center in libraries. The corpus search unit can be in the form of a language unit and a speech unit. Such a text can be used not only for reading, but also due to the presence of various grammatical interpretations of these texts, linguistic operations can be performed on them. It differs from the thesaurus in that the thesaurus searches for a concept, while the corpus looks for a word and its use. The corpus is important as a lexicographic unit containing various dictionaries (frequency, toponyms, grammatical words, phrases, etc.). Corpus is of great importance in modern lexicography. Therefore, it serves as a resource for compiling large vocabularies. Over time, the corpus becomes a large (extensive) information resource, becoming important for many linguistic directions. Corporate dictionaries are created and processed faster than ever before. The texts available in the operating system of the corpus have a sorting function. The researcher will be able to distinguish the example he needs from all the texts, and not only from the one that is important for the study. The electronic library does not have the listed functions.

Corpus is a set of texts in electronic form that find the meaning of words, phrases, grammatical forms through a specific search engine. There are different types of enclosures. For example, a corpus of authors, a corpus of books (including the first corpus of the Bible). The national corpus of a given language includes all aspects, genres, and methods, territorial and social variants of this language.

As a linguodidactician, the language corpus is equally important in the study of native and foreign languages. This opens the door to new opportunities for improving learning efficiency. It is very easy to find a word, phrase or phrase that is rarely used in the corpus, or the problem with their use and spelling (orthography) is solved in a very short time. It should be noted that the information in the linguistic corpus is not the same as described in the grammar or textbook, but the same as in the society. This is the most productive tool in the study of the folk and literary language. Today, not only grammar, the average researcher needs to know the status, level of application of a particular word, phrase or construction, who used it, when and for what style. The corpus is focused on solving similar problems.

The national corpus is required to study the vocabulary and grammar of an existing language. Another task of the corpus is to provide up-to-date information on the levels and areas of linguistics (lexicology, accentology, language history). The electronic corpus of the language is useful not only for linguists, but also for all people using the Uzbek language: specialists in various fields, scientists, politicians, lexicographers, researchers. It is a complex universal information retrieval system that can be used for various purposes [20].

The creation of a national corpus - a method of statistical research, computer translation, speech synthesis and recognition, the implementation of linguistic activities such as spell checking will help to realize the next stage in the development of corpus linguistics.

The criteria for creating corporations created in the world are: creation and filling of text, synchronization, presentation of different genres, sorting of individual texts by the ratio of numbers and special probabilistic operations, simplicity of computer analysis (placement of special characters to convey intertextuality).

Existing corporations are used for purposes such as statistical analysis of language use, natural language processing (NLP) software, lexical resource creation, language teaching or learning. It should be noted that L. Abyalova created linguistic modules for editing and analyzing natural language processing programs, studied the processes of graphic, morphological and syntactic analysis of texts [3]. The texts presented in the corpus are important in the study of the dynamic state of the language or in the analysis of the subject of various branches of linguistics.

The distribution of world corporations and corporations created over the years, the main periods of the creation of the corpus of texts, the corpus of the English and Russian languages, their various classifications are reflected in the research on corpus linguistics.

Research in the field of Uzbek linguistics and computational linguistics has provided information on some of the created world corpora, but the classifications are not fully covered in the study.

Theoretically, it was studied that the specific symbols and representativity that allow electronic search (at the morphological, syntactic level) are an important factor in the corpus (a complete reflection of the originality of many genres in the language). Suggestions are given on the structure of the corpus, the program interface, the algorithm of the program, the technology for obtaining the results.

On the technological process of building a body that provides the stages of the technological process VV Rykov, Yu.N. Marchuk, I. Melchuk, Sh. Khamroeva [7,8,9,18]:

1. The stage of preliminary processing of the text. At this stage, all texts from different sources are corrected and edited. The text is prepared for bibliographic and extralinguistic description.

a) the stage of transformation and graphical analysis. Most of the texts are considered initially. In particular, it removes elements (figures, tables) that are not needed for coding and automatic language analysis for a computer format, as well as underscores in the text.

b) the stage of automatic marking. This is done by automatically correcting the marking results, i.e. correcting and separating errors (manual or semi-automatic).

2. The stage of text marking. At this stage, the required corpus data (metadata) is entered. Meta-descriptions of corpus texts include: bibliographic information, symbols describing genre and stylistic features of the text, information about the author, and much more. This information is usually entered manually. Text components (paragraphs, sentences, word selection) and purely linguistic writing are often done automatically.

3. The stage of providing access to the case. The case display looks like this: it can be distributed on CD-ROM and is available in WAN mode. Different categories of users will have different rights and different capabilities.

4. The final stage is making changes (corpus manager) to the structure of a specialized linguistic information system that provides fast multi-parameter search and statistical processing of marked-up texts.

Of course, the composition and number of stages in each case may differ from those listed above, and the actual technology may be more complex.

The main requirements for the search engine of the National Corpus of the Uzbek language are as follows:

- 1) Search for words and phrases by their characteristics (grammatical, semantic, etc.);
- 2) Take into account the distance between the text (a whole passage of speech or work) and words;
- 3) Search for metatext information;
- 4) Extended language requirements, including boolean references, parentheses, and text operators;
- 5) The efficiency of indexing;
- 6) Quickly find the answer to the most difficult question;
- 7) Wide range, use of words up to the largest size (use of hundreds of millions of words).

Corpus data coding is based on the most authoritative standards. For example, TEI (Text Encoding Initiative), XCES (XML Corpus Encoding Standard), EAGLES (European Advisory Group on Language Engineering Standards). When presenting data in the National Corpus, the formatting of the text that carries linguistic information is based on the SGML / XML language.

There are two main types of textual information in the corpus:

A. Text information of a large array. Includes characters that fully represent the text: author name, gender, date of birth, text title, text creation time, word size, subject, text type, style, scope, etc.

V. Lexical information. Lexical information includes the following symbols: represents individual words, i.e. can use a word form in a specific place in the body of the text. This includes:

V.1. Morphological features:

- lexeme (word form);
- grammatical features of a lexeme (a group of words, living beings, passing events);
- grammatical features of the word form (number, contract, slope, time, person).

V.2. Semantic symbols:

Semantic classification, taxonomic class, mereology, assessment, causation, word-formation relations, etc. [1,10,11].

In the body, text is made up of a sequence of paragraphs, paragraphs are made up of sentences, and sentences are made up of words. In this case, the basic unit of analysis is the word, and the unit of text is the sentence. With the help of a search engine in the corpus, you can find words and phrases related to a specific character, related only to this sentence. The search result is a list

of sentences in which the found words are highlighted in a separate font. If necessary, the search text can be extended to the border of the paragraph, but no more.

Thus, it is possible to identify the main structural units in the body: word, sentence, paragraph, text. It does not use units that represent the structural division of the text (parts, chapters, sections), units that are outside the paragraph, and units that represent the syntactic structure of a sentence (sentences, groups).

“Uzbek computational linguistics is based on the features of the Uzbek language, which are completely different from English. This shows that before the creation of Uzbek computational linguistics, it was necessary to perfectly systematize and formalize the Uzbek language. To bring rich, extensive and deeply developed language issues, such as Uzbek, to the level of a computer solution, requires much more work than English,” A. Pulatov said [11].

Agreeing with the scientist, one can rely on his main ideas, although it is impossible to directly use English computational linguistics when creating Uzbek computational linguistics. When preparing the linguistic base and the bank of national texts for the creation of the linguistic corpus of the Uzbek language, a reference was made to the research work on the national corpus of the Russian language. In a study based on the observations of V.P. Zakharova [5], A.E. Polyakov [11], the process of preparing texts for the corpus is divided into the following parts:

- 1) the first layout of the text in minimal HTML format;
- 2) determination of morphological marks and homonymy (in a part of the body);
- 3) metatext markup;
- 4) Change the output format for the Yandex server.

The encoding of lexical information in the electronic body is adapted to the HTML / XML rules. This opens up a wide range of possibilities for fast processing of text in programs of various types, search index, morphological parser, converters, editing stages and automation of markup in the body. The texts for the National Corpus are imported from different sources and are presented in different formats such as plain text, HTML, RTF, PDF.

In the process of preparing the text, the following elements are removed from the text that do not belong to the author or are not important for learning the language: page numbers, column headings, title pages, table of contents, output data, systematic spelling, annotations, editor comments (comments written by the author are saved), drawings, diagrams, formulas (but captions are stored under them);

Linguistic and extralinguistic markings are the only data expression formats that facilitate the exchange of information in a corpus.

The technological process of the national corpus consists of: creating a dictionary of repetitions of lexemes and word forms based on the selected texts; view the text for any unit of the received dictionary of repetitions; divide a graphic word into syllables and compose a dictionary of repetitions of syllables; sorting word resources; simultaneous processing of an unlimited number of files; create text corpora with external symbols; the text being created is a corpus and the calculation of statistical data for individual texts included in the corpus.

Database - information, software that provides storage, updating, search and delivery of data [6]. It is an automated system that is a combination of equipment and personnel. The development of this technology and the creation of similar sources in linguistics solve the following tasks:

- 1) The problem of the structure and primary analysis of empirical material allows you to create complete texts, starting with the function of units of the language level (grammars, dictionaries, phonetic databases). On the one hand, the completion and definition of the structural model of the language system, on the other, the creation of national models of discursive regions and a model of the general language system;
- 2) the task of finding new ways of installing and storing language information, as well as organizing access to these materials;
- 3) the problem of finding new ways of processing material to optimize research and obtain new results;
- 4) solves the problem of checking the research results, referring to a large amount of material.

Linguistic support is a set of language tools that ensure the adequate functioning of a language in a specific area. When creating an electronic corpus of the Uzbek language, its software is created only with impeccable linguistic support.

Today it is popular in the context of "virtual dictionaries, technologies for working with them and their creation." At the same time, you need to understand the industry on the Internet. In this sense, the term cyberlexicography refers to the theoretical basis for creating electronic dictionaries on the Internet - general and special types of academic, encyclopedic and linguistic dictionaries [23]. The creation of a corpus, which is a prime example of cyber dictionaries, has taken lexicography to a new level. It is known that the corpus is an electronic collection of written texts, created on the basis of the introduction of a set of dictionaries collected using specially developed computer programs [13, 14, 15]. The corpus covers all aspects of the language in the form of a computer program. Thus, corpus linguistics leads to a reevaluation of the language in terms of its characteristics.

The corpus, which is a collection of dictionaries built into an information retrieval system, is the main source of the cyberlexicographic corpus. Cyberlexicographic corporations are implemented through a specially designed computer program that displays words as needed. Most importantly, the corpus program examines the given target word, determines the number of samples in the corpus and calculates the binding frequency, displays examples specific to the target part, from which the user can continue further research. The creation of national cyber dictionaries of the Uzbek language is an urgent task that allows you to connect and feed the world virtual world with Uzbek lexicography, national Internet dictionaries as its product. The development of cyberlexicography requires the creation of a complete and complete database of cyber dictionaries in the Uzbek language, automatic editing, the creation of excellent programs that translate from Uzbek into another language or vice versa.

In computational linguistics, the term "linguistic module" plays an important role. For example, translation of a natural language into a computer language, that is, the creation of methods for processing text through a computer system. To do this, use extended translations of programs created in other languages. The linguistic module is an independent component of such programs. For example, if a lexical unit is surrounded by a vocabulary layer (words), the grammar unit edits symbols, punctuation marks, letters and other symbols, spelling rules of the

spelling unit, morphological unit of word analysis (parsing of a word-token) and synthesis (lexeme formation), a supersyntactic unit in syntactic module - the phenomenon of the relationship of sentences or words is analyzed. When creating the national corpus of the Uzbek language, its algorithm is based on the specifics of the language.

The national corpus of the Uzbek language should be able to automatically analyze the lexical units available in the Uzbek language, including synonyms, antonyms, homonyms, assimilation words, word ranking, morphological structure of a word, word formation, word meaning, its morphological features. That is, in the process of compiling, lemming, marking up the corpus, it is necessary, on the basis of individual searches, to find such words included in the corpus in the texts and interpret them specifically. To do this, it is necessary to perform the above linguistic modeling algorithm. M. Abdzhalova's research "Linguistic modules of the program for editing and analyzing texts in the Uzbek language" [4], A. Eshmuminov's research on lexical units "Synonymous base of words of the Uzbek national corpus" [16], automatic analysis of the morphological features of the words of Sh. parts of the study "Linguistic foundations of the author's corpus" [18], research by N. Abdurakhmanova "Linguistic support of the program for translating English texts into Uzbek" [2] on issues related to the translation of lexical units from the Uzbek language. "Dictionary of synonyms of the Uzbek language", "Explanatory dictionary of Uzbek words", "Dictionary of obsolete words of the Uzbek language", "Dictionary of synonyms of the Uzbek language", "Dictionary of words of the Uzbek language", which are available in Uzbek linguistics to designate lexical units. Linguistic support can be the "Dictionary of contradictory words of the Uzbek language", "Dictionary of classification of words of the Uzbek language", "Educational etymological dictionary of the Uzbek language", "Educational toponymic dictionary of the Uzbek language". Only such dictionaries should be revised, lemmas of words, to distinguish their number depending on the nature of words and to connect the members of a number of lemmas with each other.

Only then can the revised dictionary become the basis of the programmer's software. Linguistic modeling of marking is advisable, since in the linguistic model the morphological tag takes the form of a conditional abbreviation. To designate each group of words, special linguistic model forms have been developed. It is necessary to develop an algorithm for morphological marking of the language base. It is necessary to define ways of supplying the linguistic base with semantic markup. Linguistic labeling is of great importance in the creation of a national corpus and the formation of its linguistic base.

When creating the linguistic base of the "National Corpus of the Uzbek Language", it is important to create models of artificial words. In this case, using the linguistic modules proposed by M. Abdzhalova, we can offer the following model of word formation in 3 different forms by the affixation method:

Hence: B = stem, DW = derived word

1. DW = base + "whether"; DW = base + "la"; DW = base + "size"; DW = base + "lik";

DW = base + qi; DW = base + "xon"; DW = base + "don"

2. In word formation with the affixation method, affixes are usually added after the base. Accordingly, artificial words formed by this method have the form "base + suffix" (for example, "taste + less", "oppress + red").

3. Artificial words also have the form "prefix + base". This phenomenon manifests itself mainly in word formation with the help of affixes borrowed from the Tajik language: dishonest, inconvenient, unworthy.

4. DW = be + base + lik; DW = none + base + lik; DW = ham + base + lik; DW = bad + base + lik

The suffix may be followed by a suffix and a prefix: be-sabr-lik, be-parvo-lik, be-saranjom-lik, be-sarishta-lik, ham-yaral-lik, ham-nafas-lik, no-insof-lik, no-mard-lik, no-makul-chilik, no-mahram-lik, no-anik-lik, bad-bakht-lik.

We can say that the use of the modeling method in the field of linguistics, especially in the process of grammatical analysis, at first glance seems to be a movement from simplicity to complexity, but serves to increase the level of comprehensibility and accuracy of the studied subject.

The corpus of managers (the corpus browser or corpus query system) is a tool for multilingual corpus analysis and is usually a complex system used to find the linguistic forms and sequences of the corpus of managers. It can provide information about the text or information provided by the caller in terms of the location of the data property (such as lemma and tag). This is called "concordance". Other actions include co-location searches, frequency statistics, and metadata that are processed in the text. A relatively short description of the corpus of managers refers to the server or query engine of the corpus. In this case, the client-side aspects are called user interfaces. The manager's body can be presented as a program on a personal computer or as a web service [24].

An integral part of the "text corpus" concept is a text or linguistic data management system. Recently, he is more commonly referred to as the corps manager. Corpus Manager is a specialized search engine. It includes proprietary data retrieval software, statistics collection and user-friendly delivery of results.

For example: search in the Russian National Corpus is carried out on the basis of Yandex.Server Professional. Yandex.Server, on the other hand, searches for hidden functions and separate tabular information in grammar and metatext. Search data is generated through the Yandex.Server. Provides full-text information search, taking into account the morphological features of the Russian language, on a web server in the corporate network. The search is carried out taking into account the morphology of the Russian, English, Ukrainian languages. He also works for Yandex on the Internet. If you enter the word "go", you will see documents containing the words "go", "going", "shell", "walked". The search result will be documents sorted by relevance. They take into account not only the number of documents, but also the contrast of words, the frequency of their use and the distance between words.

Queries are analyzed in terms of their subject matter and formal content, and interpreted in a glossary of scientific terms that work with the corpus. The search consists of comparing the individual elements of the corpus in order and determining their compatibility. In this case, the corpus texts are considered relevant and are recommended for sending [25].

The query language model of the Uzbek National Corpus usually includes the following elements:

1) Direct search elements (terms and information requests);

- 2) Means of morphological standardization of text query elements;
- 3) Operators (conjunction, disjunction, negation);
- 4) Linear grammar tools (distance and position operators);
- 5) Additional search terms:
 - Search in designated places of the body (for example, in tags);
 - Limiting the search area (for the works of some authors, some documents and their types);
- 6) Qualification (rating) requirements for the results obtained;
- 7) Requirements for the form and type of results [22].

At the first stage of development, it is important to choose the data backup and database management system (DBMS) required for the search engine. The ability to use a DBMS and data backup allows you to quickly and reliably access large volumes in real time and must meet the following criteria:

- Responsiveness (1 request per second, including the speed of the database, including a table with 100 million rows);
- Scalability (application of requirements for system functionality in accordance with processes distributed on several machines);
- The cost of the corpus (the analysis includes free commercialization and data storage);
- Interaction with software (support for the ability to work with systems such as PHP and Unix);
- Availability of documents (full availability of documents in Russian, English and Tatar languages);
- Development prospects (dynamics of project development, user community, developers' plans);

The database and system architecture is designed to answer the following types of questions:

- For direct search by word form or lemma;
- Re-examine the morphological features of the phenomena presented in the form of conjunctions, disjunctions, forms of negation, such as and, or, yo;
- For the type of hybrid search for word forms and morphological features in the lemma.

Using the architecture created for the Manager Corps allows solving many problems. In the future, this architecture can be easily applied to integrate linguistic data analysis, including morphological analyzer, multivalued morphological module solution, and various other services.

This approach to solving the problem of operating systems for the linguistic corpus. This specially developed system can be used not only for the operation of the electronic corpus of the Tatar language, but also when making changes to the Uzbek corpus [17].

In the second chapter of the volume, entitled "Syntactic analysis of texts in the corpus (syntactic analysis)", syntactic analysis, its functions, morphological analyzer, etc. are theoretically analyzed.

Parsing is the computer definition of parsing. For this, a mathematical model is created to compare tokens described by one of the programming languages with the official grammar. For

example PHP, Perl, Ruby, Python. When a person reads, from the point of view of philological science, he syntactically parses the words (tokens) that he sees on paper, comparing them in his dictionary (official grammar). A machine-readable "script" is a program (script) that allows you to compare suggested words with words on the Internet. The scope of application of such programs is very wide, but they all work according to practically the same algorithm. The algorithm for working with parsing is as follows: no matter what official programming language it is written in, the algorithm for processing it remains unchanged. Internet access, access to the code of the web resource (access) and its download; reading, receiving and processing data; present the received data in processed form - files in .txt, .sql, .xml, .html and other formats.

Parsing solves the following tasks:

1. Lexical analysis is the division of the text into sentences and phrases.
2. Morphological analysis of words (tokenization and lemmatization) - to determine the part of speech, conjugation, type (homeland) and other grammatical features of words, taking into account the text (meaning priority).
3. Syntactic syntactic analysis - to determine the relationship of words in sentences, to search for possessive and participle, to divide sentences into groups according to the possessive, complementary and case types.
4. Simplified parsing (chunking) - division of complex text into subclauses.

They are performed for all of the above, including words that are not in the dictionary. It will also be possible to connect the spelling correction mode of the morphological analyzer.

Parsing is designed to quickly parse very large amounts of text (tens of kilobytes or hundreds of megabytes). To achieve high parsing efficiency, the entire dictionary is entered into its RAM at startup. The analysis does not limit the size of the analyzed text or the time it takes to use it.

Tokens are morphological analyzer objects whose function is to perform stemming, lemmatization, and morphological analysis. The Uzbek language is agglutinative in its structure, which affects the algorithm of the morphological analyzer. The analysis was based on a dictionary approach. It identifies each stem of a word, and determines which paradigm a particular word belongs to. The grammar dictionary is based on the "Explanatory Dictionary of the Uzbek Language", which is the only lexicographic academic research.

Hence, parsing is the process of establishing syntactic links and attaching certain syntactic symbols to words or phrases.

The word "interface" comes from the English language and means "appearance". This word is often used in computer technology. The computer is the only communication system that provides a variety of information exchange between man and machine. An interface is two elements of a single system and a link that works with this system. An interface is a communication system between various nodes and complex hardware units, as well as technology and the user. It is expressed in the form of a logical (information presentation system) and formal (information properties). It is used to issue commands for specific tasks. Such an interface is called a user interface. The interface of any device is divided into external and internal views, depending on the functions it performs. The user will not have direct access to the internal interface, he has a private option. With the help of the external interface, the user can communicate directly and use it to control the device. These two types of interfaces always fit

into one device and ensure its operation, they cannot exist separately. The user interface can be divided into 2 parts [21]. For example, this is the part that is responsible for entering data on the device, and the user is responsible for outputting them. If we are talking about a simple working computer, then in the first category we have everything that works on a computer. Accordingly, everything belongs to the second category, through which the computer transmits information to the user in response to commands issued by the same keyboard, mouse and other input devices, that is, monitors, speakers, headsets, printers, plutors, etc. technique are of the following types:

Visual: A standard computer interface that transmits data using visual images displayed on a monitor.

Gestures: Typically, it serves as an interface for phones or tablets. In most cases, this is a touch panel that responds to the movements of the fingers of the person operating the system and reacts to a certain extent to each specific movement. It can be called a simplified version of a simple visual interface.

Sound: This type of interface has appeared relatively recently. Allows you to control the system using voice commands. The system, in turn, responds through user interaction. Interestingly, modern technologies make it possible to control not only the sound of phones or computers, but also the sound of household appliances and even on-board computers.

One of the newest trends in this area is the touch interface. The principle of its operation is based on the physical interaction of the user and the machine, which is carried out through certain objects.

The interface of the national corpus differs in a different design, structure, the revision of which is entrusted to the author who created the corpus. Because the interface has an attractive overall look that makes the first impression on the body. The interface should take into account decorations reflecting the national flavor, as well as symbols reflecting the classics or modernity.

Therefore, it is important that the interface is ideally and systematically designed to showcase the user-friendly and most effective experience when using the national corpus. Therefore, the interface should be created in a user-friendly format that meets the requirements of modern software.

CONCLUSION

1. Corpus linguistics is the most advanced branch of linguistics, and corpus is a necessary tool for linguists; oral, written monuments are a source of information reflecting the national and cultural heritage. A corpus is a set of texts to be searched for, and a well-defined corpus serves as a stable linguistic base to ensure the effectiveness of linguistic research. As an artificial intelligence product, the linguistic corpus includes an electronic dictionary, translation portal, terminology database, virtual (electronic) library, electronic government, electronic publications, electronic textbooks and manuals. Linguistic electronic sources, which are a product of artificial intelligence, are considered raw materials for creating a certain linguistic corpus.

2. The creation of the National Corpus is carried out in two stages: determination of the list of sources and digitization of texts (transformation into computer form). Its technological process consists of: creating a dictionary of repetitions of lexemes and word forms based on selected texts; view the text for any unit of the received dictionary of repetitions; divide a graphic word into syllables and compose a dictionary of repetitions of syllables; sorting word resources;

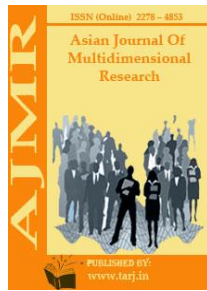
simultaneous processing of an unlimited number of files; create text corpora with external symbols; calculation of statistical data for the corpus of created texts and individual texts included in the corpus; work with source texts in txt, doc i rtf format, automatic encoding setting, etc.

3. The most effective standards for encoding corpus data have been selected. The presentation of its data is based on an SGML / XML text layout. When encoding, lexical information is adapted to HTML / XML rules. The texts selected for the National Corpus are taken from various sources and presented in different formats: plain text, HTML, RTF, PDF.

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SCHOOLCHILDREN AND THEIR SPEECH

Tueva Zulfiya Nozimovna*

*Teacher of Native Language and Literature,
Chairman of the Bukhara Regional Council,
People's Democratic Party
Secondary school number 21, Bukhara,
UZBEKISTAN

ABSTRACT

The basic unit of human thinking is thought, which usually only materializes through language. In society, the exchange of ideas is a socially legitimate need, a vital necessity, and without satisfying this need it is impossible to talk about the development of society. That is why everyone needs to know how to use the language, and for that you need to know grammatically the language itself. Learning a language means not only knowing its grammatical structure, mastering concepts, tariffs and rules, but also the ability to apply these concepts, tariffs and rules in practice. The subject "Native Language" taught at school teaches the principles of using the multifaceted potential of the language in speech. Grammatical concepts should act as a tool for assimilating these norms, but sometimes forgetting this leads to a distraction from the main goal of teaching the native language.

KEYWORDS: *Teaching the Mother Tongue at School, Creative Thinking, Personality Development, Speech, Requirements for Students' Speech.*

INTRODUCTION

A market economy based on unprecedented competition requires the education of an entrepreneur, a person with a high level of creativity, able to survive any difficult situation with his own mind, independent creative thinking and a strong national spirit. While the policy of our state is based on ensuring the well-being and happiness of a person, education of a person cannot be organized for purposes other than those indicated above. In this process, the civic duty of "everyone who considers himself a true patriot of his country should be to assist in the fulfillment of this task." Since our main goal in school education is "to develop students' ability to think and analyze for themselves" [1], one of the main ways of doing this is to look at the problem of native language learning from a completely different point of view than usual.

In order to "form and develop in children the skills of creativity, independent thinking, correct and fluent expression of the product of creative thought in oral and written forms in accordance with the conditions of speech," the main focus is on teaching the mother tongue. When teaching the ability to express the product of creative thought in oral and written forms in accordance with the conditions of speech, special attention should be paid to three aspects:

- 1) Teach students to be creative, think independently;
- 2) Teach the student to speak correctly, fluently, reasonably, logically;
- 3) Teach the student to write correctly, fluently, reasonably, logically [5].

A person improves his speech throughout his life. This process is especially effective during childhood. From an early age, he feels the need for communication, more and more needs to listen to the opinions of others and express his own opinion.

In light of the nature of the topic we are considering, based on the goals and objectives listed above, we will focus below on the basic requirements for the speech of students in school.

Compliance of the Student's Speech with the Conditions of Oral Communication:The conditions for verbal communication are age, level, worldview, social, mental, material, spiritual, educational status, place of residence, the topic of communication between the speaker and the listener during a conversation. (Verbal communication is multifaceted and multifaceted, it covers everything that surrounds the speaker and the listener during a conversation, from the object, situation to the level of their knowledge, profession, interests and abilities of the speaker.)

Oral / written forms of communicative speech can have many characteristics depending on the specific conditions of oral communication. For example, the speaker must present his speech taking into account the level, age, position, nature of the audience. This requires regular work with students on how to convey the same idea (information, wishes, etc.) to yourself to your younger ones, peers, seniors, relatives, strangers. Teaching children to write letters, messages, essays, notes, etc. Effectively influences the formation of the ability to express the same idea in different ways in different situations of verbal communication [2; 3]. We will try to prove this idea with the following examples:

Story: One night Harun ar-Rashid saw in a dream that all his teeth had fallen out. The next day the Caliph of the prophets learn the interpretation of the dream. One of the prophets who came said: "O Caliph, all your relatives will die before your eyes. There is no one left but you". Harun al-Rashid, who heard this, said: "He will punish me for daring to tell me such an unpleasant interpretation. The second person who came to translate said: "O Caliph, your happiness laughed. You will live longer than all your relatives. " Harun ar-Rashid said: "The path of all minds is the same, and their interpretation is the same, but there is a big difference between this expression and this expression," and awarded the second interpreter.(Kaykovus "Kobusnoma")

The beauty of a person lies, first of all, in his demeanor, in his grace, in his eloquence, and not in his words. It was not in vain that the people said: "Speak thoughtfully, even if you speak in jest."

Native language lessons in school should teach students to be sincere, sweet and good-natured in communication.

The Content of the Student's Speech:It is important to remember that any speech is related to the context of verbal communication only when it makes sense. The reader can only accurately describe what he knows, events about which he is aware, both orally and in writing. Only an

opinion based on concrete evidence, observations or impressions, emotions, attracts the attention of others. In this regard, it is important to follow the advice of our people: "Stay away from the truth, which is like a lie." That is, even if the speaker thinks that he is right and his truth cannot convince anyone, it is better not to use it in speech.

"Speak the truth, even if you see the danger of being honest. Then you will be saved. Don't lie even if you see the benefits. Woe to the end of all lies! "

It is also important that the **idea of the reader's speech is logically correct, clear and consistent**. When an idea is logical in speech, its impact increases. This is something from every reader - to be able to carefully look at the event, correctly evaluate each of them, build a speech in a regular and consistent way, prove it, logically link one idea with another, make the main points related to the topic so that you can distinguish, it is necessary to prohibit feedback.

Speech is a product of logical thinking. It is closely related to methods of mental activity such as searching, finding, comparing, grouping, generalizing, applying. All this is said by Abdurauf Fitrat in his book "The Leader of Salvation". The greatest condition for moral education is that children receive more and more good and bad from home, from friends on the street, from students at school. " Thus, the consistency, accuracy and consistency of the idea in the student's speech also depends on the interaction in the society "school-family-society".

For, as Huwaido said: "If there is no person, he realizes the meaning. Don't call him Ani a man, but a patterned wall. "

Rich and Colorful Student Speech:The rich variety of speech lexical possibilities of the Uzbek language in the expression of ideas: synonyms, synonyms and antonyms, figurative expressions and phrases, colored and uncolored words, as well as means of increasing the artistic value of speech: proverbs and sayings of great poets and writers, this is manifested in the use of distorted sentences, excerpts from works of art and vivid literary symbols, subtle hints and phrases, means of artistic language such as comparison, adjective, animation, allegory, rhetoric, rhetorical questions. These visual language means add beauty, charm and variety to speech, make speech brighter, and attract the attention of others.

For this, it is important to instill in students a jewelry taste in the choice of words.

Clarity of Student Speech: Accuracy of speech is not only a description or description of an object, event, process, but also the definition of characteristics characteristic of an event, the choice of words, phrases and sentences corresponding to their description. Clarity is closely related to the richness and variety of speech. The ability to convey certain content in various forms, the ability to choose a way of displaying appropriate to the speech situation, brings clarity to speech.

For instance,

Don't look at the one who said it, look at what he said. (Proverbs)

Don't look at a person's clothes, look at his knowledge. (Az-Zamakhshari)

A person should enrich the soul, not the body. (Yusuf Khos Hajib)

The wealth of thinking is a thousand times greater than material wealth.

The Melody of the Student's Oral Speech: A tone reader is one of the tools to improve the efficiency of speaking. Therefore, the ability to read poetry, prose passages in melody is also one

of the basic requirements for reading speech. He divides speech into syntagmas using tone, appropriately applies logical accents, and understands the intricacies of wordplay used in creative speech.

The desired conversation process is characterized by a variety of tones. The tone not only expresses the character of the speaker or the psyche of the situation, but also reflects the national identity of each representative of the people. Because representatives of different mentalities use different tones. In any discourse, tone acts as a means of communication, expression of emotions, or a part of speech. The ability to correctly analyze the tone of the speaker's speech is the key to a correct understanding of the purpose of speech [7].

It is useful that expressive reading has become an integral part not only of textbooks on literature, but also of native language lessons.

The Grammatically Correct Structure of the Student's Speech:First, the reader must be able to select words, phrases, and sentences that match the text he or she is composing to use in his or her speech. Then each grammatical unit can use the necessary paradigmatic lines, that is, the morphological forms of nouns - conjunctions, possessive suffixes, relative to verbs, indivisibility, degree to adjectives, adjectives, plural suffixes, shorten to be able to use the necessary adjectives, tenses, personal pronouns in compliance with the terms of speech; parts of speech: must have skills and abilities such as cutting, possession, addition, identification and adaptation. Suffice it to recall the words of the linguist Peshkovsky: "He who knows grammar controls the language, who does not know grammar controls the language."

Simplicity and Purity of Student Speech:In fact, the simplicity of speech is a testament to its accuracy. Simple speech is, first of all, understandable. The intelligibility of speech depends, on the one hand, on the laconic, clear expression of the idea, on the avoidance of incomprehensible sentences, and on the other hand, on the level of training of the listener. This means that the reader should be able to express an idea simply and freely, as well as understand and capture the essence of the opinions of others.

For example, many people know by heart the poetry of the poet Muhammad Yusuf. Why? The reason is that the poet was able to convey any emotions inherent in a person in a simple philosophy. For example, a poet expresses his feeling of love for his homeland in the following way: "I will not trade one of the most beautiful restaurants in Paris for tandoor nimu" or "*What have I done to the world? You are my bright world ...* "

Purity of speech means that in the speech of students there are no various repetitions, unnecessary sentences, words (barbarians) that are not characteristic of the Uzbek literary language, units of a dysphemistic nature. The main task of native language lessons is to teach them to express their thoughts in pure literary language, using its rich potential [3; 4].

We have partially listed the main requirements for student performances above. These requirements are inextricably linked, and the reader achieves the correct speech by doing all of the above. Therefore, a teacher cannot focus on only one side of speech in a native language lesson and forget about the second requirement, or leave one requirement in the younger grade, and the other in the next. The development of speech is effective only if these requirements are consistently followed.

Statistics conclude that the level of speech development of schoolchildren around the world is not yet in demand. Children get acquainted with more than 750 different grammatical concepts

and definitions in the lessons of their native language at school, the completed task of various sizes and complexity is about 6,500-7,000, there are no meanings of all meanings. Many students find it difficult to think creatively, to develop the product correctly, we steadily and in writing; they cannot use the rich potential of the Uzbek literary language in the speech process.

The cognitive activity of students is developing dynamically. With this in mind, certain general and specific subject-specific goals of education are reflected in the context of peer learning. One of the important conditions for ensuring that the content of education is consistent with the goals of education is a set of educational tasks for independent work of students, a learning system that encourages free thinking, each subject in the educational process, each type of activity, each lesson and a specific lesson, everything, that is, the entire education system must serve the achievement of the main goal, set the task to engage in mental, logical activity. Undoubtedly, every aspect of a subject taught in the education system must understand which aspect of this goal, that is, determine the specific goal of each subject and subject, subordinate the content, material, method and each lesson to this goal - each step requires a clear definition of which or what "bolt" will be [3].

This is a complex process in the development of students' speech at school, and when implementing it, it is important to pay attention to the following:

1. Regularly introduce students to words and phrases whose lexical meaning is unfamiliar to them.
2. Introduce students to the new meanings of the word.
3. Converting words with low consumption into words with widespread use in the speech of students.
4. Eliminate words from the student's speech that are contrary to the literary language.
5. Development of skills of using dictionaries among students, etc.

The tasks should be set by the teacher so that the student can learn each of them. (*It is necessary to create conditions for the student to study independently, and not to teach in the learning process!*)

Experts say that a child who has just entered school develops oral speech according to five factors (later, of course, this also affects written speech):

1. Daily communication in the family (interaction of family members, direct communication with the child).
2. Communication at school (teacher ~ student process and extracurricular communication, student interaction, etc.).
3. Communication on the street (communication with adults, communication with peers and younger ones).
4. Social environment.
5. The educational process (at home, at school) and independent reading, television, radio, Internet, etc.

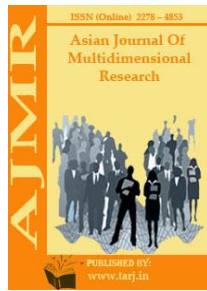
On the other hand, the formation and development of written language is mainly a process after the child enters school.

Thus, the lessons of the native language should serve the formation and development of children's creative abilities, independent thinking, the ability to express the product of creative thought in oral and written forms in accordance with the conditions of speech, the development of linguistic sensitivity. This is due to the fact that education in the mother tongue requires a social order.

Spirit, thinking and language are closely intertwined in a person. From this it is clear that in the implementation of the upbringing of a creative and independent personality, the role and nature of the native language and its educational system, which make up its means, are incomparable.

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OPTIMAL OPTICAL - GEOMETRIC AND OPTICAL-ENERGY CHARACTERISTICS OF MIRROR-CONCENTRATING SYSTEMS

A. Abdurakhmanov*; **Yu.B. Sobirov****; **S.Sh. Makhmudov*****

^{1,2}Institute of Materials Science SPA "Physics-Sun",
Academy of Sciences of the Republic of Uzbekistan,
Tashkent, st. Chingiz Aitmatov, 2B, UZBEKISTAN
Email id: yuldash64@inbox.ru

***Tashkent State Technical University named after Islam Karimov,
Tashkent, st. Universitetskaya 2, UZBEKISTAN

ABSTRACT

The paper presents the calculation of the optimal size of individual elements - facet solar mirror - concentrating system for energy purposes. The dependences of the optimal facet size on the optimal concentrator aperture angle are given. The characteristic dimensions of the focal spot forming the general structure of the scattering spot on the focal plane of the paraboloid concentrator are presented. The expected - calculated energy characteristics and the main parameters of the autonomous concentrator are given.

KEYWORDS: *Specular - Concentrating System, Paraboloid, Focal Spot, Aperture Angle, Midsection, Degree Of Concentration.*

INTRODUCTION

As is known, for the complete development of the incoming radiant fluxes of the Sun into the midsection of an energy concentrator, which is important for obtaining the maximum value of the efficiency of the receiving optimal size of the receiving surface of the receiver, it is necessary, first of all, to determine the optimal value of the aperture angle of the concentrator and the corresponding size of the focal spot for a particular size of the mirror-concentrating system (MCS) of the paraboloid shape with the diameter $D = 2y = 4ftg(u_{opt}/2) = 2(fx) \tan(u)$, where $x = f \tan(u/2)$, f is the focal size, u_{opt} - optimal value of the aperture angle. The main characteristics of paraboloid MCS are defined as follows [1 -3]:

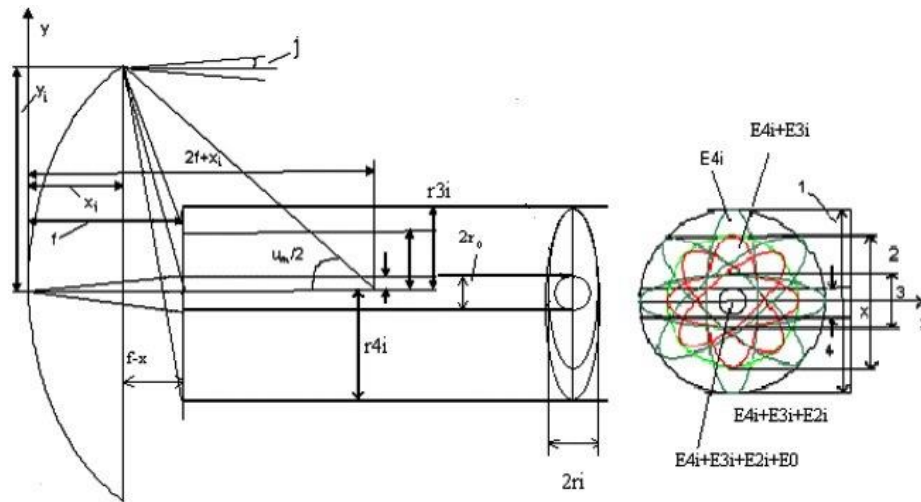


Fig. 1. Determination of the relationship of optical-geometric parameters of a paraboloid of revolution

$$\frac{Y}{f-x} = \operatorname{tg}U; \quad \frac{Y}{2 \cdot f} = \operatorname{tg} \frac{U}{2}; \quad y = 2 \cdot f \cdot \operatorname{tg} \frac{U}{2};$$

$$Y^2 = 4 \cdot f \cdot x; \quad x = f \cdot \operatorname{tg}^2 \frac{U}{2}. \quad (1)$$

$$r_2 = f \cdot \left(1 + \operatorname{tg}^2 \frac{u}{2}\right) \cdot \operatorname{tg}(\gamma_0 + \Delta\alpha) \quad (2)$$

$$r_3 = f \frac{(1 + \operatorname{tg}^2 \frac{u}{2}) \cdot \operatorname{tg}(\gamma + \Delta\alpha)}{1 - \operatorname{tg}^2 \frac{u}{2} + 2 \cdot \operatorname{tg} \frac{u}{2} \operatorname{tg}(\gamma + \Delta\alpha)} \quad (3)$$

$$r_4 = f \frac{(1 + \operatorname{tg}^2 \frac{u}{2})^2 \operatorname{tg}(\gamma + \Delta\alpha)}{1 - \operatorname{tg}^2 \frac{u}{2} - 2 \cdot \operatorname{tg} \frac{u}{2} \operatorname{tg}(\gamma + \Delta\alpha)} \quad (4)$$

$$0 \div r_0, r_0 \div r_2, r_2 \div r_3, r_3 \div r_4. \quad (5)$$

где, γ - видимый угловой размер солнца; $\Delta\alpha$ - среднеквадратическая ошибка поверхности; r_0, r_2, r_3, r_4 - характерные радиусы пятна рассеяния на фокальной плоскости концентратора.

Where, γ is the apparent angular size of the sun; $\Delta\alpha$ is the root mean square error of the surface; r_0, r_2, r_3, r_4 are the characteristic radius of the scattering spot on the focal plane of the concentrator.

As you know, the main characteristic of concentrators is their degree of concentration. This value is equal to the ratio of the area of the MCS midship to the area of the focal spot [4-6]:

$$C = \frac{\pi \cdot y^2}{\pi \cdot r_4^2} = \frac{(f-x) \cdot \operatorname{tg}(\gamma + \Delta\alpha)}{(f-x) \cdot \operatorname{tg}(u + (\gamma + \Delta\alpha)) - \operatorname{tg}(u)} \quad (6)$$

$$C = \frac{\pi \cdot y^2}{\pi \cdot r_4^2} = \frac{\operatorname{tg}(\gamma + \Delta\alpha)}{\operatorname{tg}(u + (\gamma + \Delta\alpha)) - \operatorname{tg}(u)} \quad (7)$$

$$C = \frac{tg^2(\gamma_0 + \Delta\alpha)}{[tg(u + (\gamma + \Delta\alpha)) - tg(u)]^2} \quad (8)$$

Knowing the degree of concentration C for a paraboloid of revolution and taking into account $tg(u + (\gamma_0 + \Delta\alpha)) = \frac{tg(u) + tg(\gamma_0 + \Delta\alpha)}{1 - tg(u) \cdot tg(\gamma_0 + \Delta\alpha)}$ we find the optimal value of the degree of concentration.

Зная степень концентрации C для параболоида вращения и учитывая находим оптимальное значение степени концентрации. It is found from the expression C taking the differential with respect to $tg(u)$ and the resulting equation is taken equal to zero, that is:

$$Cd(tg(u))=0; Cd(tg(u)) = \frac{tg(\gamma + \Delta\alpha)}{tg(u + (\gamma + \Delta\alpha)) - tg(u)} du = 0 \quad (9)$$

Solution:

$$Cd(tg(u)) = \frac{tg(u) \cdot [1 - tg(u) \cdot tg(\gamma_0 + \Delta\alpha)]}{tg(\gamma_0 + \Delta\alpha) \cdot (1 + tg^2(u))} du \quad (10)$$

We make the replacement $tg(u) = x$, then: and

$$\begin{aligned} Cdx &= \frac{x \cdot [1 - x \cdot tg(\gamma_0 + \Delta\alpha)]}{tg(\gamma_0 + \Delta\alpha) \cdot (1 + x^2)} dx = \frac{[1 - 2x \cdot tg(\gamma_0 + \Delta\alpha)] [(1 + x^2) - 2x + 2x^3(1 - x \cdot tg(\gamma_0 + \Delta\alpha))]}{tg^2(\gamma_0 + \Delta\alpha)(1 + x^2)^2} = \\ &= \frac{1 - 2xtg(\gamma_0 + \Delta\alpha) + x^2 - 2x^3tg(\gamma_0 + \Delta\alpha) - 2x^2 + 2x^3tg(\gamma_0 + \Delta\alpha)}{tg^2(\gamma_0 + \Delta\alpha) \cdot (1 + x^2)^2} = \\ &= \frac{1 - 2xtg(\gamma_0 + \Delta\alpha) - x^2}{tg^2(\gamma_0 + \Delta\alpha) \cdot (1 + x^2)^2} = 0 \quad \text{откуда } x^2 + 2x \cdot tg(\gamma_0 + \Delta\alpha) - 1 = 0 \end{aligned}$$

$$x_{1,2} = -tg(\gamma_0 + \Delta\alpha) \pm \sqrt{1 + tg^2(\gamma_0 + \Delta\alpha)} \quad \text{finally}$$

$$tg(u_{opt}) = x = -tg(\gamma) + \sqrt{1 + tg^2(\gamma_0 + \Delta\alpha)} \quad \text{при } \Delta\alpha = 0 \quad (11)$$

$tg(u_{opt})=44^{\circ}52'$ Table 1 below shows the change in the $tg(u_{opt})$ value for different values $\Delta\alpha$.

TABLE 1 DEPENDENCE OF TAN (U_{OPT}) ON VARIOUS VALUES $\Delta\alpha$

$\Delta\alpha,$	0	4'	8'	12'	16'	46'	106'	136'	450'
$tg(u/2)$	0,418	0,4125	0,412 2	0,4118	0,411 5	0,4091	0,405 2	0,402 7	0,298 9
U, 0	44,87	44,83	44,79	44,77	44,73	44,49	44,12	43,87	22,30
$tg(u)$	0,837	0,8250	0,824 2	0,8236	0,822 8	0,8182	0,810 4	0,805 4	0,597 8
U/2, 0	22,43	22,41	22,39	22,38	22,36	22,24	22,06	21,98	21,15

Table 1 shows that the influence on the optimal value of U_{opt} at small values of the root-mean-square error $\Delta\alpha$ is insignificant and is in the range $U_{opt} = 44 \div 450$ ($\Delta\alpha$ up to 1.5°). This corresponds to the manufacture of even folding designs of space concentrators [7].

On the basis of the optimal aperture angle, first of all, the focal length for the selected diameter (power) of the concentrator is found. For example, the MCS of a modular or autonomous version of a concentrator with a diameter of $D = 6.3$ m, we find the focal length:

$$f = \frac{D}{4 \cdot \operatorname{tg}\left(\frac{u_{opt}}{2}\right)} \quad (12)$$

When the value of manufacturing accuracy $\Delta\alpha$, for example, a mosaic concentrator, where with the optimal element size - facets, which is calculated as follows. As it was said, the most typical for power MCS is the size of the midsection, which is determined by the value γ of the radius of the round-symmetric concentrator, which characterizes the power. The power of the concentrator characterizes the main requirement from the customer.

The next important characteristic is the optimal value of the aperture angle, as indicated above. On the basis of this, the value of the focus is determined, as well as the optimal size of the receiving surface of the receiver.

$$\text{For example, } D=6,3 \text{ mf } f = \frac{D}{4 \cdot \operatorname{tg}\left(\frac{u_{opt}}{2}\right)}.$$

$$\operatorname{tg}(u_{opt}) = -\operatorname{tg}(\gamma_0 + \Delta\alpha) \pm \sqrt{1 + \operatorname{tg}^2(\gamma_0 + \Delta\alpha)} \text{ or expression}$$

$$\operatorname{tg}(u_{opt}) = \frac{2\operatorname{tg}\left(\frac{u_{opt}}{2}\right)}{1 - \operatorname{tg}^2\left(\frac{u_{opt}}{2}\right)}$$

$$\operatorname{tg}\left(\frac{U_{opt}}{2}\right) = -\sqrt{1 + \operatorname{tg}^2(\gamma + \Delta\alpha)} + \sqrt{2[1 + \operatorname{tg}^2(\gamma + \Delta\alpha) + \operatorname{tg}(\gamma + \Delta\alpha)]\sqrt{1 + \operatorname{tg}^2(\gamma + \Delta\alpha)} - \operatorname{tg}(\gamma + \Delta\alpha)}$$

Whence from the table of values $\Delta\alpha = 0 \div 2^\circ$ and $u_{opt} = 44^\circ 87' \div 43^\circ 87'$ the change in U_{opt} is a small value within one degree. If the root-mean-square error is taken equal to $\Delta\alpha = 30'$, then the value of the optimal angle:

$$\operatorname{tg}\left(\frac{u_{opt}}{2}\right) \approx 0,4091 \text{ и } \operatorname{tg}(u_{opt}) = 0,8899 \quad (13)$$

Then for the concentrator $D=6,3$ mfocal length

$$f = \frac{6,3}{4 \cdot 0,4091} = 3,85; \quad x = f \cdot \operatorname{tg}^2\left(\frac{u_{opt}}{2}\right) = 3,85 \cdot 0,4091^2 = 0,64 \quad (14)$$

We find the optimal size of the ray-receiving surface from the expression:

$$r_{4opt} = f \frac{\left(1 + \operatorname{tg}^2\left(\frac{u_{opt}}{2}\right)\right)^2 \cdot \operatorname{tg}(\gamma + \Delta\alpha)}{1 - \operatorname{tg}^2\left(\frac{u_{opt}}{2}\right) - 2\operatorname{tg}\left(\frac{u_{opt}}{2}\right) \cdot \operatorname{tg}(\gamma + \Delta\alpha)} \quad (15)$$

Substituting the known values in equation (15), we get: $r_{4opt} = 0.0867$ m.

The optimal size of the radiant surface of the focal spot is $2r_{4opt} = 0.1734$ m.

The corresponding optimal size of the element - facets of the mosaic concentrator is determined as follows (see Fig. 2).

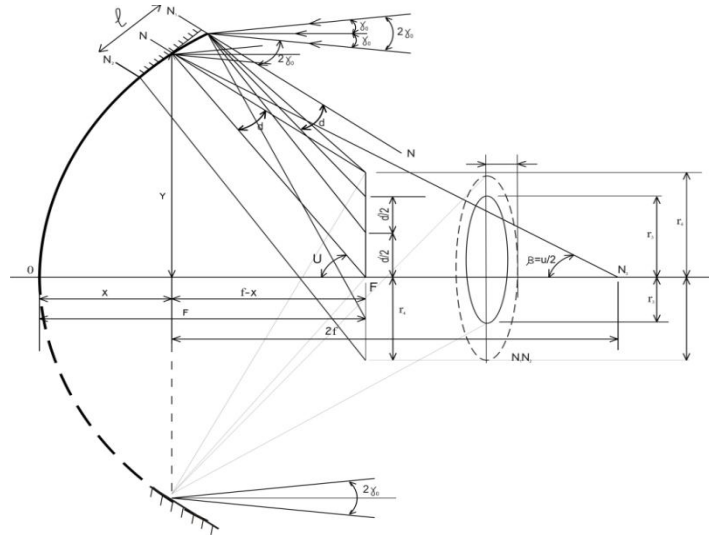


Fig 2. To calculate the optimal diameter of individual elements - the facet of the concentrator

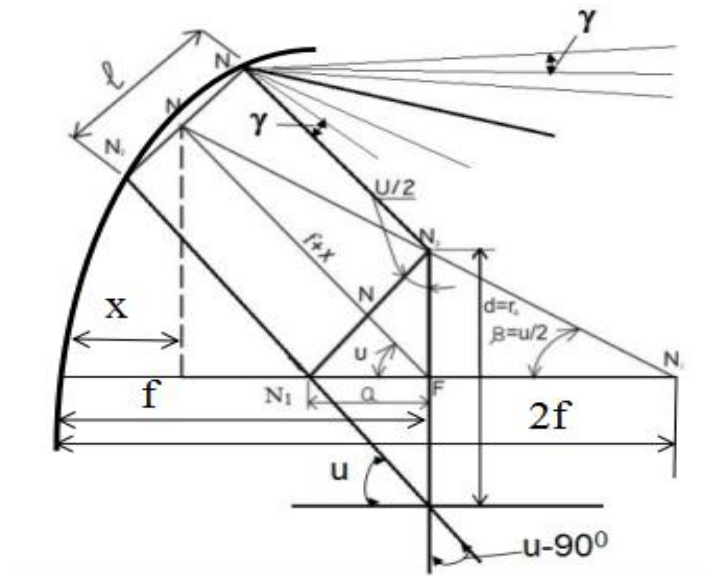


Fig. 3. Determination of the optimal size of elements - MCS (Mirror concentrating system) facet of mosaic or facet design

Due to the property of specular reflection, the rotation of the mirror through an angle $u/2$ parallel to the point N, the beam arriving parallel to the optical axis after reflection from the point N is rotated through the angle u and the angle falls on the focal point F and u is the value of the aperture angle.

It is necessary to note for the unification of manufacturing technology when designing a reflecting surface, for example, flat elements - the MCS facet is sufficient to determine the dimension of the most extreme facet, the rest of the facets of the same dimension reflect the solar radiant flux falling into the focal plane are concentrated in a spot of size d_{opt} on the basis of the sinus theorems [8, 9]:

$$\frac{\ell}{\sin(90 - u_{opt})} = \frac{d}{\sin\left(90 + \frac{u_{opt}}{2}\right)} \quad (16)$$

$$\frac{\ell}{\sin u} = \frac{d}{\sin 2u} \quad (17)$$

$$\text{Where } \ell \approx d \frac{\sin\left(90 - u_{opt}\right)}{\sin\left(90 + \frac{u_{opt}}{2}\right)} = d \cdot \frac{\cos\left(u_{opt}\right)}{\cos\left(\frac{u_{opt}}{2}\right)}.$$

Allowing for expansion due to the apparent angular size of the Sun

$$l = d_{opt} \frac{\cos(u_{opt})}{\cos\left(\frac{u_{opt}}{2}\right)} \quad 2a \cdot \text{tg}(\gamma + \Delta\alpha) \quad \text{где, } a = \sqrt{y^2 + f^2} = f \cdot \sqrt{1 + 4\text{tg}^2\left(\frac{u_{opt}}{2}\right)} \quad (18)$$

$$l = d_{opt} \frac{\cos(u_{opt})}{\cos\left(\frac{u_{opt}}{2}\right)} - 2f \cdot \sqrt{1 + 4\text{tg}^2\left(\frac{u_{opt}}{2}\right)} \cdot \text{tg}(\gamma + \Delta\alpha) \quad (19)$$

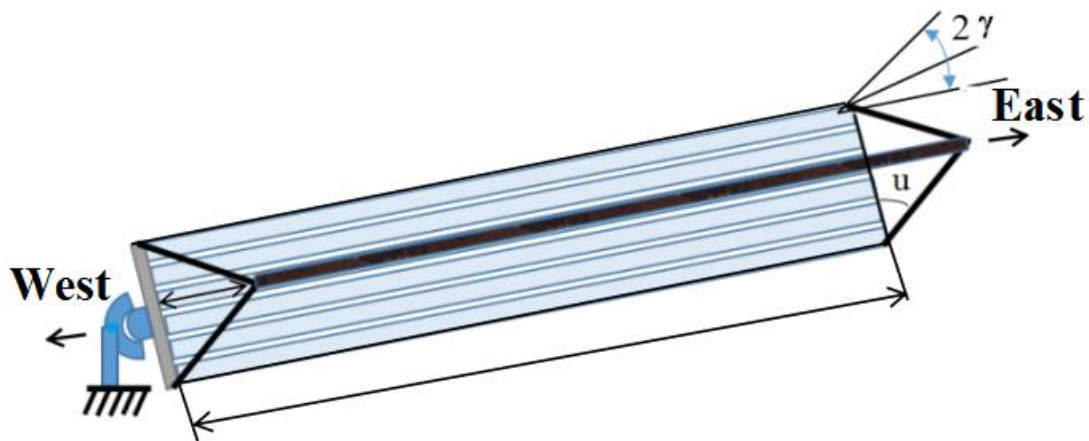


Fig. 4 a. General layout of the individual elements of the Fresnel MCS on the surface of the earth

Summarizing the determination of the main optimal values of the optical-geometric characteristics f , u_{opt} , d_{opt} and l_{opt} , it is possible to create the most effective MCS for any power, which is characterized by the midsection diameter:

$$D = 2 \cdot y = 4 \cdot f \cdot \operatorname{tg} \left(\frac{u}{2} \right). \quad (20)$$

These calculations are also applicable for parabolic-cylindrical, Fresnel MCS (see Fig. 4 a and 4 b). In the case of a parabolic-cylindrical concentrator, the degree of concentration is found by the formula:

$$C = \frac{2 \cdot y \cdot l}{2 \cdot r_4 \cdot l} \quad (21)$$



Fig. 4 b. Parabolic cylindrical solar plant based on linear mirrors



Fig. 5. General view of the Fresnel mirror - concentrating system (FMCS) on a flat base with dimensions of 10x10 m [10]

The individual elements of the FMCS are the same as for the composite ones - faceted parabolic cylindrical MCS, only the facets are located on the most technologically advanced in the manufacture of a simple flat surface. FZKS can be located in the north-south direction, which is associated only with the annual angular declination relative to the Sun, in modular autonomous

versions it can be carried out manually. Calculations of the optimal dimensions of flat linear elements of the FZKS are similar to the parabolic-cylindrical one.

The location of the facets in sectors on the frame of the concentrator allows them to be stacked tightly - with minimal gaps. However, the larger the size of the individual facets, the larger the size of the focal spot (see Fig. 6). In the work of V.A. Mayorov, mathematical models for calculating the main characteristics of concentrators, the dependence of the geometric concentration on the aperture angle are presented, analytical expressions are obtained to ensure the optimal operation of solar modules in a stationary mode of operation and in the mode of automatic tracking of the Sun [11]. Often, to obtain the maximum efficiency of a solar plant, they are equipped with automatic control systems along the visible path of the Sun [12,13].

We have created an autonomous solar concentrator with a diameter of 6.3 m. On the frame of the concentrator, we have created a base for a reflecting surface in a sector form. Our calculations showed that for a given concentrator the optimal size of individual facets is 17 cm in diameter. There are various options for installing a facet on the concentrator frame: installing a reflective mirror on a faceted frame, gluing the mirror onto a prepared base, etc. In the first case, it becomes possible to adjust the facet by changing the geometric position of the facet frame, in the second case, the base must be accurate within the permissible error.



Fig. 6. Sector arrangement of the mirrors of the paraboloid concentrator [3]



Fig. 7. General view of an autonomous concentrator with a diameter of 6.3 m

Expected Results Table 2 and Fig. 7 and shows the main parameters of the concentrator and the expected results.

TABLE 2 MAIN PARAMETERS OF THE CONCENTRATOR AND EXPECTED RESULTS

$D=6,3$ m	$U=44,5^0$	$\Delta\alpha=16'$	$f=3,85$ m
$r_0=0,036$ m	$r_2=0,042$ m	$r_3=0,058$ m	$r_4=0,059$ m
$S_{con.}=31,18$ m ²	$C_{max}=11000$	$W=13,0$ kW	$E_0=700$ BT/m ²

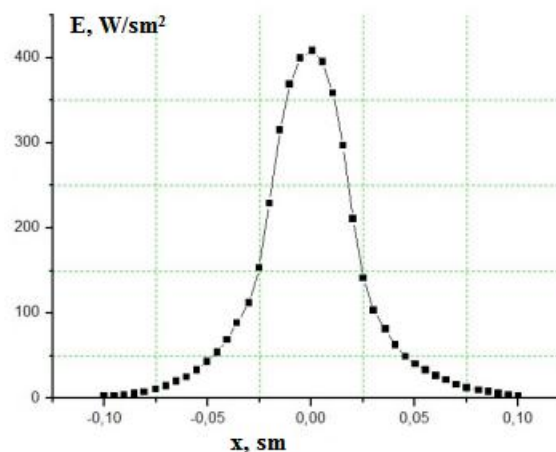


Fig. 9. Distribution of the density of the radiant flux from the Sun on the focal plane of the autonomous concentrator

CONCLUSIONS

The autonomous paraboloid solar concentrator for energy purposes, with a power of 13 kW, developed by us, allows you to receive thermal and electrical energy. It can be used by geologists, shepherds, in farms in places far from the general electric transmission line. In mountainous areas with good wind resources, it is possible to combine the installation with low-power wind generators to ensure the continuity of electrical energy [14,15].

Acknowledgments

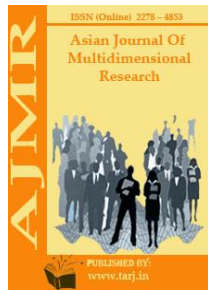
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THE IMPACT OF HUMAN MIGRATION ON THE ETHOSPHERE OF EMIGRANT COUNTRY: PHILOSOPHICAL AND ETHICAL ANALYSIS

Sardor Komilugli Alimov*

*PhD student,
The National University of Uzbekistan,
UZBEKISTAN

ABSTRACT

The article examines the impact of the phenomenon of human migration on the moral environment of the countries that supply migrants. The impact of migration processes on the moral environment of the donor society, the transformation of moral values and ideals are directly related to the scale of migration. The author divides the impact of migration on the morals of the emigrant state into 3 parts depending on the stage of the migration process. The article focuses on both the positive and negative aspects of the impact of migration on the ethics of the donor society.

KEYWORDS: *Human Migration, Migrant, Moral Environment, Ethosphere, Immigrant State, Emigrant State, Donor Society, "Brain Drain"*

INTRODUCTION

The phenomenon of migration is one of the global complicated social processes, the impact of which can be felt in the economic, social, political, legal, cultural and moral life of society. The era of globalization is also accelerating human migration, increasing the number of migrants several times. Migration, together with the recipient countries that receive migrants, affects the moral environment (that is ethosphere) of the donor countries that supply them.

The impact of migration processes on the moral environment of the donor society, the transformation of moral values and moral ideals are directly related to the scale of migration. Migration of people, with the exception of forced migration, is primarily a matter of personal choice, the manifestation of freedom of choice and the appearance of the pursuit of liberty. The migration of one person has almost no effect on the moral environment of society, but if hundreds of thousands, millions of people change their place of residence, their social and moral space, this process will affect the moral landscape of the whole society, will lead to the transformation of the moral environment.

LITERATURE REVIEW

Issues related to the impact of human migration on the moral of donor countries have been poorly researched. Typically, research on migration in the fields of philosophy, political science, sociology, jurisprudence was carried out from the point of view of the immigrant state. The problem of the impact of migration on the moral environment of an emigrant country or donor society is topical with little research.

The need to study the impact of migration on the donor society was highlighted by Collier in 'Exodus: How Migration is Changing Our World' [1]. Jakeevich and Mirzabalayeva, researchers in the post-Soviet region, studied the migration mood among the population of the donor country. They tried to show the influence of migration mood on migration ethics through social questionnaires. [2; 3]. While researchers such as AdovorE., Czaika M., Docquier F., Moullan Y., Anand S., Bärnighausen T. have studied the "brain drain" phenomenon of migration and its negative impact on the donor state's atmosphere [4; 5], researchers such as Agrawal A., Kapur D., McHale J., Oettl A. have pointed out that migration also has benefits for the donor state [6].

RESEARCH METHODOLOGY

In the research work, ordinary research methods like observation, data analysis, content analysis were used. Besides that, the researcher had used journals, manuscripts and articles to collect data related to the research.

ANALYSIS AND RESULTS

The impact of migration on the emigrant state can be divided into three stages depending on the period of migration:

1. The impact of emigration on the moral environment prior to migration;
2. Transformative processes in the moral environment of the donor society when migration occurs;
3. Ethical aspects of the processes associated with the return of migrants to their homeland.

The first effect of migration on the moral environment is reflected in the moral choice in the process by which people make the decision to move. In the process of moral choice, ethical concepts such as personal prosperity and economic freedom enter into a dialectical debate with moral principles such as patriotism and devotion. Such debates can take place both in a person's inner world and with the people around them. As a result, since there is still migration, in the moral environment of an emigrant society, moral principles, transformation of concepts come into being, moral values begin to be re-evaluated.

Prior to the migration process, due to the existing social, economic, political, legal and other factors in the society, the migratory mood, migratory behavior begins to form in the social consciousness. The migration decision is not an easy decision to make. When a person decides to leave because of dissatisfaction with society, it is based on a moral choice. In order for a mass migration decision to take place, it is required that a migratory mood is formed in the majority of members of the society. The fact that someone did not move does not mean that he absolutely does not want to move. According to some researchers, 40% of the total population of economically underdeveloped countries would like to move to developed countries for economic prosperity if they have the opportunity [7]. In support of this view, we can say that people's desire to move and their ability to move do not always coincide, some people just want to move, but

they don't make any practical effort to migrate, and in others, economic or legal opportunities are limited. That is why we can evaluate migration as a result of a long-planned process, a moral activity aimed at happiness and prosperity.

The second stage is directly related to the fact that migrants go abroad for work, education and other purposes. At this stage, migrants are physically separated from their homeland, their social and moral environment. However, their permanent influence on the ethosphere of the emigrant countries is observed. The reasons for this are modern media and social networks. Migrants act as a kind of specific portal between the recipient and the donor society, when they are living in a new moral space, are learning new moral values, ideals and principles. In other words, migrant is at the same time a carrier of moral norms, principles, values and ideals for both moral environments - the recipient and the donor societies.

As the number of migrants increases, the moral image of the recipient state in the social consciousness of the donor society undergoes a transformation. As a result of the increase in the number of migrants who have achieved success and are able to provide economic well-being for themselves and their families who have remained behind them, the desire of other people to move to the countries where they moved also increases. Because the experience of people nearby serves as a great motivation for the rest. On the other hand, the restrictions on language and professional skills in the immigration policy of the recipient countries serve to increase the activity of people in the donor society in these areas and to make practical efforts to learn the new language and new profession. A potential migrant with language, sufficient knowledge, and skills may never leave his home country for the rest of his life, but his knowledge, skills, and abilities will serve the well-being of himself, his family, and his country. This can be justified morally.

Another direct effect of migration on the moral environment is explained by the fact that every migrant has the opportunity to be in constant contact with at least his family. As millions of members of society live as migrants in another country, in a different moral environment, it means that migration directly affects the moral environment of the million families left behind, and indirectly affects the lives of other families and members of society. As mentioned above, the achievements of modern information technology play an important role in this. As the number of migrants increases, so does the impact of migration on the emigrant society. For example, migrants are beginning to compare the two moral environments. Moral problems in the emigrant state, differences in the ethosphere begin to be felt, attempts are made to solve these ethical problems, to find solutions to them. On the other hand, as the relationship between the emigrant state and the immigrant country increases, the number of migrants increases, the cultures of the two countries begin to converge, the moral environment also interacts, the emigrant country begins to study the history of the recipient state, the films of the immigrant society, the cultural achievements become popular, the moral values begin to be accepted. All this determines the direct impact of migration on the ethosphere of the donor country.

The next manifestation of the impact of migration on the moral environment of the donor society occurs when migrants return to their homeland. Significantly, the impact of migrants on the moral environment in their home countries is more pronounced when they return than when they leave as migrants. Because when they return from migration, migrants become the carriers of the elements of the moral environment, moral norms, values in the recipient state, which they have adopted and accepted.

People have always been prone to imitation. In particular, the habits, attitudes, and moral attitudes of a migrant who has achieved a certain economic well-being due to migration are considered ideal for the rest of society. And as a result, with the help of one migrant leads to a change in the moral views of his family members, relatives, and with the increase in the number of migrants, the transformation of the ethosphere of the whole society.

The impact of migrants on the moral environment as a result of their return depends on two factors:

1. The level of moral development of the society visited by the migrant. In this case, the economic, moral and legal development of the host country, the tolerance of society, the social attitude towards migrants play an important role.
2. The degree to which a migrant adapts to the moral environment of the immigrant society, social adaptation, and the level of mastery of moral norms, principles, values and ideals.

If a migrant does not adapt to society, when he is abroad, only communicates with members of the diaspora to whom he belongs historically, if he does not learn the language, culture, traditions, customs of the local population, his acceptance of moral norms, social adaptation becomes difficult, there is a risk of alienation from society, marginalization.

If the moral environment of the state in which the migrant went is developed and the migrant has adopted universal moral norms, if the migrant has more moral values such as tolerance, humanity, environmental ethics, rule of law, the impact of migration processes on the socio-moral environment of the emigrant society is of positive importance.

Skilled workers, talented young people who believe in their talents and potential, become migrants to try their luck. Immigrant societies, of course, will benefit from the migration of the intellectual elite. On the other hand, the departure of highly intelligent people has a negative impact on the moral environment in the emigrant country. In some cases, the migration of smart people is caused by the economic difficulties in the country, and sometimes by the wrong, unethical political decisions in the country. Those who can't vote with the ballot in the politics of the country often vote with their feet, that is, they leave the country. A famous politician, Singapore's first prime minister, Lee Kuan Yew, once said, 'If a country is mismanaged, all smart people will leave [8]'. The immorality of management is one of the factors leading to intellectual migration, but not the most important. The departure of smart people from the country should be seen as the result of systemic problems. Whatever the cause, this phenomenon has a profound effect on the socio-ethical environment of the donor society. Indeed, highly intelligent, educated people, in many cases, become the conscience of society, evaluate the existing social moral problems, try to prevent or reduce their harm, fight for the interests of society, serve the cause of social prosperity. If they do not have a place in society, on the contrary, leave the country due to various difficulties and pressures, the society will suffer from this. The lack of participation of intellectuals, scientists in the management of the state and society can lead to the emergence in their place of people who make superficial decisions. This has a negative impact on the well-being of society and the stability of the moral environment.

One of the positive features of the phenomenon of 'brain drain' is the opportunity for most students studying abroad to acquire modern knowledge and skills, to develop their respective fields by returning to the emigrant country, to contribute to social welfare. Today, the share of international students in international migration has increased, reaching 4.6 million in 2017. Their

return will undoubtedly contribute to the overall strength of the emigrant society. But many international students try to stay in the countries where they study [9]. The departure of talented young people from the country reduces the potential opportunities associated with the development of society. That is why emigrant countries, in addition to financing the education of young people who want to study abroad, provide them with certain benefits for their return. In any case, returning young people can actively influence the development of the moral environment.

Migration also affects the moral consciousness of the emigrant society. In particular, the social and moral consciousness, especially in the minds of young people living in developing countries, is characterized by dissatisfaction with the society in which they live, and the search for an ideal society in which to live. This situation can be called the phenomenon of 'ideal life elsewhere'. When people see the injustices, social and economic difficulties in the society in which they live and are unable to change them, they want to move to a society where there are real opportunities. On the other hand, migrants do not move to another country just to earn money. As they and their families migrate, they also try to choose the moral environment and cultural space in which their children will grow up. Everyone wants their children to grow up in good economic and social conditions, to be surrounded by good people. But that may not always be possible. This creates a feeling of nostalgia for the life they consider ideal, including the socio-ethical environment, such people always try to leave their countries where they live as potential migrants. This can lead to the transformation of the system of moral norms of donor society.

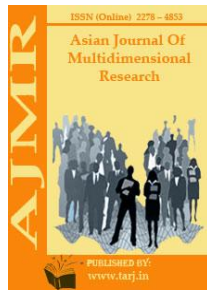
CONCLUSION

In conclusion, it can be said that migration has both direct and indirect effects on the moral environment of the emigrant country. In general, the impact of migration on the moral environment of the emigrant state and society can be understood in a positive sense in relation to the morality of tolerance, in formation of pluralism, or in a negative sense in relation to the collapse of existing moral values. In order to prevent the spread of 'pop-culture', the spread of immorality, and the negative impact of migration on the moral environment, migrants are required to have 'spiritual-moral immunity' based on national and universal moral values.

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KEY PERSPECTIVES OF YOGA AND USAGE PATTERNS IN ASSORTED RELIGIONS

Dr. Anjana Lohan*

*Associate Professor,
Head, Deptt. Of Physical Education, S.D. Mahila Mahavidyalay,
Narwana (Jind), INDIA

ABSTRACT

Yoga refers to the a collection of physical, mental, and spiritual practises or disciplines that originated in ancient India with the goal of controlling ('yoking') and stilling the mind, as well as recognising the detached 'witness-consciousness' as unaffected by mind activity (Citta) and mundane suffering (Dukha). There are many schools of yoga, practises, and objectives. in Hinduism, Buddhism, and Jainism, and yoga is practised globally in both traditional and contemporary forms. There are essentially two schools of thought about the beginnings of yoga. According to Crangle, the linear model asserts that yoga originated in Arya, as evidenced in the Vedic literary corpus, and impacted Buddhism; this paradigm is mostly accepted by Hindu academics. Yoga, according to the synthesis paradigm, is a synthesis of indigenous, non-Aryan practises with Aryan components; this concept is widely accepted in western academia.

KEYWORDS: *Yoga, Usage Patterns of Yoga, Yoga and Benefits.*

INTRODUCTION

Yoga is stated for the first time in the Rigveda and is also mentioned in many Upanishads. The word "yoga," with the same meaning as the contemporary term, first appears in the Katha Upanishad, which was presumably written between the fifth and third centuries BCE. Yoga continued to evolve as a systematic study and practise in ancient India's ascetic and ramaa movements throughout the fifth and sixth century BCE.

The Yoga Sutras of Patanjali, the most complete book on Yoga, originate from the early centuries CE,. While Yoga philosophy became recognised as one of Hinduism's six traditional philosophical systems in the second century, Hatha yoga literature originated in tantra during the ninth and eleventh centuries.

The word "yoga" is often used in the Western world to refer to a contemporary version of hatha yoga and a posture-based physical fitness, stress-relief, and relaxation technique, in contrast to traditional yoga, which emphasises meditation and disengagement from worldly attachments.

It was brought to the west by gurus from India, after the popularity of Vivekananda's adaptation of yoga without asanas in the late nineteenth and early twentieth centuries. The Yoga Sutras acquired popularity in the twentieth century as a result of hatha yoga's success.



Figure 1: Yoga and Key Patterns

Key Goals and Aim with Yoga

Yoga's ultimate aim is to quiet the mind and acquire insight, to rest in detached awareness, to attain liberation from samsara and dukkha. A method or practise that leads to union (Aikyam) with the Divine (Brahman) or with one's own Self (Atman). This objective is expressed differently depending on the philosophical or religious framework with which it is conjugated. The ultimate aim of yoga practise in the traditional Astanga yoga system is to attain the state of Samadhi and to remain there as pure consciousness.

Yoga, according to Jacobsen, has five primary traditional interpretations:

1. A methodical approach to achieving an objective.
2. Techniques for exerting control over the body and psyche.
3. The name of a school or philosophical system (darana).
4. With the addition of prefixes such as "hatha-, mantra-, and laya-yoga traditions, each of which focuses on a certain method of yoga.
5. The Yoga practice's objective.

According to David Gordon White, the fundamental concepts of "yoga" were in place by the fifth century CE, and variations on these principles evolved in different forms throughout time:

1. A meditation technique for identifying and overcoming faulty perception and cognition in order to alleviate suffering, achieve inner peace, and redemption. This concept is illustrated in Hindu writings such as the Bhagavad Gita and Yogasutras, as well as in a number of Buddhist Mahayana works and Jain texts.

2. The elevation and extension of consciousness from self-contained awareness to one that is coextensive with everyone and everything. These are addressed in Hinduism's Vedic literature, including the epic Mahabhrata, Jainism's Praamaratiprakarana, and Buddhism's Nikaya scriptures.

3. A route to omniscience and enlightened awareness that enables one to understand both ephemeral (illusory, enigmatic) and permanent (true, transcending) reality. Examples of this may be found in both Hinduism's Nyaya and Vaisesika school texts and Buddhism's Mdhyamaka school texts, although in somewhat different ways.

4. A method for transferring into other bodies, creating numerous bodies, and doing other supernatural feats. These, according to White, are mentioned in Hindu and Buddhist Tantric literature, as well as the Buddhist Smaaphalasutta. James Mallinson, on the other hand, believes that such fringe activities are diametrically opposed to the mainstream aim of Yoga as a meditation-based path to liberation in Indian religions.

White explains that the last principle is about mythical objectives of "yogi practise," as opposed to practical goals of "yoga practise," as they have been regarded in South Asian philosophy and practise from the dawn of the Common Era, in the various Hindu, Buddhist, and Jain philosophical systems.

Historical Perspectives

There is no agreement about the date or origins of yoga, save that it originated in ancient India. There are essentially two schools of thought about the beginnings of yoga. According to the linear model, yoga originated in Arya, as shown by the Vedic literary corpus, and impacted Buddhism; this approach is mostly accepted by Hindu academics. Yoga, according to the synthesis paradigm, is a synthesis of indigenous, non-Aryan practises with Aryan components; this concept is widely accepted in western academia.

Yoga-related pre-philosophical ideas started to develop in the early Upanishads of the first millennium BCE. Expositions are found in Jain, Buddhist, and proto-orthodox writings dating from about 500 to 200 BCE. Between 200 BCE and 500 CE, "technical lineages of Indian philosophy (Hindu, Buddhist, and Jain) developed, gathering their teachings in sutra-collections and developing a cohesive philosophical framework known as "Patanjali yogasastra." Began to manifest. Throughout the middle Ages, many satellite yoga traditions developed. Yoga, along with other facets of Indian philosophy, came to the notice of an educated western audience in the mid-nineteenth century.

Origins: Model linear

According to Crangle, Hindu scholars have favoured a linear theory that seeks to "understand the origin and early development of Indian meditative practises as a sequential progression from an Aryan genesis."

In the same way that orthodox Hinduism views the Vedas as the ultimate repository of all spiritual knowledge,

Bryant argues that writers who advocate for Indigenous Aryanism also advocate for the linear model.

Heinrich Zimmer was a prominent proponent of the synthesis-model, advocating in favour of India's non-Vedic Eastern states.

Yoga philosophy, according to Zimmer, is included in the non-Vedic system, which also includes the Samkhya school of Hindu philosophy, Jainism, and Buddhism: "[Jainism] does not derive from Brahman-Aryan sources; rather, it reflects the cosmology and anthropology of a much older pre-Aryan upper class in northeastern India [Bihar] – sharing the same subsoil of archaic metaphysical speculation as Yoga, Sankhya, and Buddhism, the other non-Vedic Indian systems." Gombrich and Samuel have claimed more recently that the ramaa movement began in non-Vedic Greater Magadha.

Thomas McEvelley supports a composite hypothesis in which a prototype of pre-Aryan yoga existed before to the Vedic era and was refined throughout the Vedic period.

According to Flood, the claim that the Upanishads are essentially different from Vedic ceremonial tradition, implying non-Vedic influences, is persuasive. Nonetheless, parallels may exist between these disparate traditions:

[T]his dichotomy is oversimplified, since there are definitely continuities between renunciation and Vedic Brahmanism, but components from non-Brahmanical, Sramana traditions also influenced the development of the renunciate ideal.

The ascetic traditions of the eastern Ganges plain are often believed to have evolved from a shared corpus of linked practises and philosophies, using proto-samkhya enumerations and the purusha and prakriti concepts as a common denominator.

Yoga and Civilisation of the Indus Valley

According to certain yoga experts — Werner, McEvelley, and Eliade — the centre image of the (so-called) Pashupati seal represents an asana position.

Thus, yoga's origins may be traced back to IVC.

However, recent scholars — Geoffrey Samuel, Andrea R. Jain, Wendy Doniger, and others — have dismissed this yogic identification as anachronistic unsubstantiated speculation; they argue that the meaning of the figure will remain unknown until the Harappan script is deciphered and that Yoga's roots cannot be traced back to IVC.

Other Religions and Faith towards Yoga

Christianity

Certain Christians combine physical elements of yoga devoid of Hinduism's spiritual foundations and other facets of Eastern mysticism with prayer, meditation, and Jesus-centered affirmations.

Additionally, the practise involves renaming postures in English (rather than utilising the original Sanskrit names) and discarding complex Hindu chants as well as the Yoga philosophy; Yoga is linked with and reframed within Christianity. This has resulted in accusations of cultural appropriation from different Hindu groups; academics, however, remain dubious. The Roman Catholic Church and a number of other Christian groups have previously voiced reservations and opposition to some eastern and New Age activities, including yoga and meditation.

The Vatican published two papers in 1989 and 2003, Aspects of Christian meditation and "A Christian perspective on the New Age," both of which were mostly dismissive of eastern and New Age activities. The Vatican released the 2003 paper as a 90-page guidebook outlining the Vatican's stance. The Vatican cautioned that focusing only on the physical elements of meditation "may devolve into a body cult" and that associating physiological experiences with

mysticism "might potentially result in mental disturbance and, at times, moral deviance." This has been likened to the early years of Christianity, when the church fought the gnostics' idea that salvation comes via a mystical inner understanding rather than by faith. Additionally, the letter states, "one may consider if and how [prayer] could be enhanced by meditation techniques established in other faiths and civilizations." but supports the notion that "there must be some connection between the nature of [other forms of] prayer and Christian ideas about ultimate reality." Certain fundamentalist Christian groups see yoga as incompatible with their religious heritage, viewing it as a component of the New Age movement, which is incompatible with Christianity.

Islam

Al Biruni, a Persian scholar, visited India in the early 11th century, lived among Hindus for 16 years, and translated many important Sanskrit texts into Arabic and Persian with their assistance. Patanjali's Yogasutras was one of them. Al Biruni's translation retained many of Patanjali's core ideas, but some sutras and analytical comments were rewritten to conform to Islamic monotheistic theology. Around 1050 AD, Al Biruni's rendition of the Yoga Sutras reached Persia and the Arabian Peninsula. The hath yoga book Amritakunda was later translated into Arabic and then Persian in the 16th century. Yoga, on the other hand, was not approved by Sunni and Shia Islam. Minority Islamic groups, especially in South Asia, such as the mystic Sufi order, embraced Indian yoga practises, including postures and breath control. Muhammad Ghawth, a Shattari Sufi and one of the 16th-century translators of yoga texts, sparked controversy with his interest in yoga and faced persecution for his Sufi views.

In 2008, Malaysia's highest Islamic authority issued a fatwa banning Muslims from doing yoga, claiming that it included Hindu components and that its practise constituted blasphemy, therefore haraam. Certain Muslims in Malaysia who have been practising yoga for years blasted the decision as "insulting." Sisters in Islam, a Malaysian women's rights organisation, voiced displeasure as well, claiming yoga was just a kind of exercise. This fatwa is legally binding. Malaysia's prime minister, however, emphasised that although yoga as a form of physical exercise is permitted, reciting religious mantras is forbidden. In 2009, Indonesia's Islamic authority, the Indonesian Ulema Council (MUI), issued a fatwa prohibiting yoga on the basis that it includes Hindu components.

These fatwas have been challenged in turn by Darul Uloom Deoband, an Indian Deobandi Islamic school. Similar fatwas prohibiting yoga because to its connection to Hinduism were issued in 2004 by Egypt's Grand Mufti Ali Gomaa and previously by Islamic clerics in Singapore.

According to the Iranian Yoga Association, there were about 200 yoga centres in the nation as of May 2014, with a quarter of them located in the capital Tehran, where groups may often be seen practising in parks. Conservatives have objected to this. In May 2009, Ali Bardakolu, Turkey's Directorate of Religious Affairs, dismissed personal development methods such as reiki and yoga as commercial enterprises that might foster extremism. His remarks were made in reference to the possibility of reiki and yoga serving as a kind of proselytization at the cost of Islam. Nouf Marwaai is the yoga teacher who introduced yoga to Saudi Arabia for the first time in 2017 and contributed to the legalisation and official recognition of yoga in Saudi Arabia, despite claimed threats from her community, which views yoga as "un-Islamic."

Yoga for Buddhists

Sakyamuni Buddha sitting in meditation with the dhya mudra (meditation mudra), Sri Lanka, Gal Vihara.

Buddhist meditation and Dhya in Buddhism are the primary articles.

Buddhist yoga includes a wide range of techniques aimed at cultivating the 37 aids to enlightenment. The ultimate aim of Buddhist yoga is bodhi (awakening) or nirvana (cessation), which is generally understood to be the permanent cessation of pain (dukkha) and reincarnation. Apart from yoga, Buddhist scriptures employ a variety of names for spiritual practise, including bhava ("development") and jhna/dhya.

Various yogic techniques were taught in early Buddhism, including:

- The dhyanas (four meditations or mental absorptions),
- The satipatthanas (four satipatthanas) (foundations or establishments of mindfulness),
- Anapanasati anapanasati anapanasati anapan (mindfulness of breath),
- The four immaterial habitations (supranormal states of mind),
- Brahmavihars (divine abodes).
- Auxiliary (contemplations, recollections)

These meditations were seen as being bolstered by the eightfold path's other components, such as ethical practise, proper effort, sense restriction, and right vision. In Buddhism, two mental characteristics are considered essential for yogic practise: samatha (calm, steadiness) and vipassan (insight, clear seeing). Samatha is the state of mind that is steady, peaceful, and tranquil. Additionally, it is linked with samadhi (mental unity, concentration) and dhya (meditation) (a state of meditative absorption). Meanwhile, vipassan refers to a kind of insight or penetrating knowledge of the actual essence of things. Additionally, it is described as "viewing things exactly as they are" (yathabhuta daranam). While the real nature of things is defined and described in a variety of ways, a significant and distinctive characteristic of classical Buddhism is its view of all phenomena (dhammas) as devoid of a self (atman) or intrinsic essence, a theory referred to as Anatta ("not-self") and nyata (emptiness). This is in stark contrast to the majority of other Indian traditions, which are either based on the concept of an individual Self (atman, jiva, or purusha) or on the concept of a global monistic awareness (Brahman). Vipassana also requires a knowledge of dukkha (and therefore the four noble truths), impermanence (anicca), and interdependent origination.

In the course of time, many Buddhist traditions developed, leading to new and improved yogic practises. The Theravada school, although orthodox, developed new concepts on meditation and phenomenology in its later writings, with the Visuddhimagga being one of the most important. Mahayana Buddhism's Indic meditation teachings may be found in classic books like the Yogacharabhi-sutra (compiled c. 4th century). Meditation techniques used in Mahayana Buddhism, such as mantra and dharani usage, pure land practises, which sought to rebirth in the land of Buddha or Buddhafield, and visualisation procedures, have all evolved and incorporated new yogic approaches as well. With the rise of Chinese Buddhism came the development of unique practises like the introspective Koan practise of Chan and the Hua Tou system. As with Mantrayana and Vajrayana Buddhism, Tantric Buddhism created and embraced tantric

techniques, which form the foundation of Tibetan Buddhist yogic systems including deity yoga, guru yoga, and Naropa's six yogas, among other things.

Yoga as it has been practised for thousands of years. Yoga is a major topic of discussion (philosophy). Classical Yoga, Astanga (Yoga of eight limbs), and Raja Yoga all relate to Patanjali's Yoga Sutras, which describe the basic principles of yoga.

The Classical Yoga tradition's beginnings remain a mystery, although the name "Classical Yoga" first appears in the Upanishads. Astanga Yoga, the eight-limb system of yoga practised to reach the ultimate goal of samadhi outlined in the Yoga Sutras, was originally known as "Rja yoga," or "kings' yoga," but was popularised by Vivekananda as a common term for Ashtanga Yoga, or the eight-limbed system of yoga practise. In the second part of the first century CE, yoga philosophy was recognised as one of the official philosophical schools (darsanas) of Hinduism (those who accept the Vedas as a source of knowledge). This website's first page:

There are many other types of yoga, but the classical style includes a lot of the same ideas as other forms of yoga including epistemology and metaphysics. Their approach to knowledge and metaphysics are comparable to that of the Skhya school of thought (epistemology/pramana). Traditional yoga philosophy, like Skhya, is based on the idea that reality is divided into two parts: the physical world and the spiritual world. Here, we have prakirti (nature), which is the everlasting and active unconscious source for the material universe, comprised of three gunas, as well as puruas (people), numerous, inactive and immortal witnesses to the plural consciousnesses that make up the intelligent principles of the world. Each person has a unique purua, which is their real self, as well as the one who witnesses and enjoys them. Puruas are said to go through reincarnation cycles as a result of their connection and affiliation with prakirti in this metaphysical system. As a consequence of purua's separation from prakirti (kaivalya), liberation, the system's aim, is accomplished via meditation in which one separates oneself from prakirti's many forms. Rest in pure awareness of purua while stilling your mind waves (citta vritti). The Yoga school of Hinduism, in contrast to the Skhya school, supports the idea of a "personal, but basically passive, deity" or "personal god," (Ishvara).

As to the Advaita Vedantic school of thought, the image depicts a group of devotees gathered to worship Adi Shankara (1904). Advaita Vedanta's Jna yoga emphasises study of Vedic scriptures under the guidance of a guru. It's important to note that Vedanta has a wide range of sub-schools and philosophical viewpoints. Vedanta emphasises the study of ancient writings such as the Upanishads and the Brahma sutras, which were important in Vedanta's development. The Brahma sutras emphasise spiritual understanding of Brahman, the unchanging absolute reality or self, as a goal of yoga or meditation.

CONCLUSION

Advaita Vedanta, a non-dualistic school of thought within Vedanta, is one of the oldest and most prominent. With Jna yoga (yogic knowledge), one may realise one's identity with Brahman (the Absolute, one's own awareness) (the Absolute consciousness). Adi Shankara, who lived in the eighth century and produced many comments and original works on Jna yoga, is considered the most important thinker of this school. The Advaitins believe that Jnana is achieved via the study of scripture (sruti) and the guidance of a guru, as well as through the practise of listening (sravana) to teachings, thinking about them (manana), and meditating on them (nididhysana) in order to come to understand their meaning. "Mumukutva" refers to a desire for knowledge and independence, as well as characteristics like discernment (viveka), renunciation (virga), serenity,

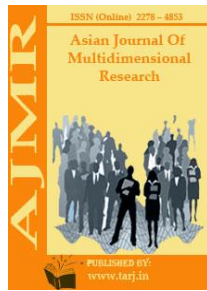
temperance (dispassion), perseverance (faith), and attentiveness. According to Advaita, yoga is ultimately a "meditative practise of withdrawal from the specific and identification with the universal, culminating to contemplation of oneself as the most universal, namely, Consciousness.

In the Yoga-Vsiha, yoga is taught from an Advaita viewpoint of nondualistic idealism, which has had a significant influence. Several short tales and anecdotes are used to illustrate the points being made in this book. It teaches yogic practise in seven phases, called bhumis. Scholars of mediaeval Advaita Vedanta yoga used it extensively, and it was one of the most popular books on Hindu yoga before the 12th century. The Yoga-Yjavalkya is another book that teaches yoga from an Advaita perspective. This book includes detailed instruction on the Yamas (ethical principles) and Niyamas (responsibilities), as well as eight asanas. There's also discussion of nadis and prana (the vital breath), as well as instructions on pranayama (controlling your breath), pratyahara (withdrawing your senses), mantra meditation, contemplative visualisations, and Kundalini.

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THE IMPORTANCE OF COMPETENCIES IN IMPROVING THE PROFESSIONAL SKILLS OF FUTURE FOREIGN LANGUAGE TEACHERS

Aziza Botirovna Musoyeva*

*English Teacher and Independent Researcher,
Samarkand State Institute of Foreign Languages,
UZBEKISTAN

Email id: musoeva@samdhti.uz

ABSTRACT

This article is devoted to the analysis of the terms “Competence” and “Competency Approach” of the researchers, taking into consideration their importance on future foreign language teachers. It also concentrates on the competencies mentioned in the CEFR document and non-mentioned competencies which are essential for the professional development of prospective teachers. Apart from that, it shows the study findings and results of the preliminary questionnaire and initial test taken from teachers and students. Last, it covers suggestions on how to improve the students’ knowledge about the competencies and the CEFR.

KEYWORDS: *Competence, Competency-Based Approach, General Competences, Communicative Competence, Socio-Cultural and Intercultural Awareness, Linguistic Competence, ICT Competence, Pedagogical Competence, Pedagogical Skills, Professional Competence, Syllabus, Curriculum.*

INTRODUCTION

As it is widely seen that the level of knowledge of a foreign language is gradually developing across the country, because of the adopted legislation and ongoing reforms in Uzbekistan. It is no exaggeration to say that this is due to the efforts made in foreign language teaching, research and studies conducted by our scientists and young researchers. As a result of these studies, the concepts of “Competence” and “Competency Approach” have become popular in recent years in the field of foreign language teaching, as in other areas.

MAIN PART

If we look at the history of this term, it was first used in world linguistics in 1965 by N. Chomsky as “language competence”. The famous scientist defined the term “competence” as a

set of activity-oriented knowledge, skills and competencies, which was interpreted by his followers as a “competency approach”. In doing so, we need to know the differences between the concepts of competence and competency approach. These terms were coined by the Russian scientist N.D. Galskova as factors indicating effectiveness in education [6].

Over the years, the term has become the subject of research by world and CIS organizations and scientists as well as scientists and researchers of our country [1, 2, 5, 7, 8]. For example, as a result of research conducted by K.J. Riskulova, the terms of competence and competency approach are defined on the basis of the author's approach. According to her, “competence” means a set of professional laws, principles, requirements, rules, duties, duties and responsibilities, as well as personal deontological norms, necessary for a particular profession. “Competency approach” is related to the practical activity of the individual, the ability to demonstrate the norms of competence in the practice of work on the basis of creativity in accordance with the requirements of society, and its main criterion is determined by effective activity, training of competitive personnel [10].

A.Kh.Mahmudov defined the concept of competence, in which “competence is a set of interrelated and interacting integrative knowledge, skills and abilities (cognitive component) and socially important qualities (decision-making, readiness, competence and responsibility) is an integrative quality of the individual (socio-psychological component)”[9].

If we define the concept of competency approach, it is a set of factors that contribute to the formation of competence in students. This approach has been introduced into the education system of the country, which has led to the improvement of the requirements of state educational standards, changes in the content of science programs and textbooks at all stages of the system of continuing education [11].

According to N.A. Almazova, the competency-based approach is aimed at the development of cognitive and activity, which is described as an approach aimed at helping students to use a foreign language in their future careers [4]. This means that as a result of studying under this approach, future foreign language teachers will continue to develop their competencies.

The term competence itself is actually very broad, encompassing a variety of contexts such as subject mastery, empathy, interaction, communication skills, pedagogical skills, didactic skills, situational awareness, motivation, social skills, students' knowledge, oral skills, creativity, and pedagogical knowledge. In addition, teacher competence plays an important role in decision-making and has a positive or negative impact on teacher behavior, teaching, and the learning process of students [3].

When it comes to teacher competence, it is the right way to convey knowledge, program and skills to students and is also a process related to the teacher's teaching environment. Qualified teachers create a conducive environment for students to learn. To do this, they will need to have developed a variety of competencies and be familiar with the general and communicative competencies provided for in the CEFR.

In CEFR, the term competence is defined as “the sum of knowledge, skills, and attributes that enable a person to perform actions” [1]. In the fifth chapter of this document, competencies are divided into general and communicative competencies. General competencies are those that are not specific to the language but serve the language activity. They include declarative knowledge, skills and know-how, existential competence, and the ability to learn.

In our opinion, the most important of the general competencies envisaged in the CEFR document is the competence of socio-cultural and intercultural awareness for the future teacher, which aims to pass on to the next generation by studying all the social and cultural laws of the studied foreign language. At the same time, the future teachers develop their intercultural awareness competence. Besides, existential competence is also important, as it increases the self-confidence of the future teacher and brings them to the level of a mature person. This increases their worldview, passion or motivation to learn and teach the language. Another key aspect of general competencies is the formation of learning abilities, in which the competencies of independent learning, information retrieval, comprehension and transmission, and the use of new technologies and ICT are important.

The next type of competencies envisaged in the CEFR are communicative language competencies, which provide “human ability to communicate using specific linguistic means” [1]. Communicative language competencies include three main competencies: linguistic competence, sociolinguistic competence, and pragmatic competence.

In our opinion, while the competencies mentioned above and listed in the CEFR document are important for the future foreign language teacher, there are also a number of competencies not mentioned in the CEFR that will also play an important role in the future for every future teacher. The most important of them and those that serve to improve the professional skills of future teachers are social competence, assessment competence, cultural awareness, ICT competence, pedagogical competence, pedagogical skills, professional competence, competence in the use of humor in the classroom, the impact of being in a foreign country competence, research competence, curriculum competence, continuing learning competence, and digital literacy competencies.

RESULTS AND DISCUSSIONS

Based on the competencies listed above, we aimed to analyze the attitudes of future teachers towards competencies and how well they are aware of the CEFR document during our study. In order to gain a broader knowledge, we analyzed the subject curricula created for undergraduate students, i.e. future teachers (foreign language and literature), and examined the attitudes of teachers directly involved in pedagogical activities to competencies. The results of the analysis will help future foreign language teachers to draw conclusions and make suggestions and recommendations on the hours allocated to the development of competencies mentioned and not mentioned in the CEFR document, the goals and objectives of the subject, educational content and textbooks.

Since the aim of our research is to form and develop the professional skills of future foreign language teachers through CEFR, we aim to examine the importance of general and communicative language competencies of future teachers mentioned in the CEFR document and the importance of non-document competencies mentioned in the document. In the course of our research, we organized a diagnostic and prognostic phase in order to get a general idea of the problem being studied in the experimental fields set by the Ministry of Higher and Secondary Special Education. The purpose of organizing this stage was to determine the level of the problem in the objects of pedagogical diagnostics and on its basis to determine the experimental scientific hypothesis, goals and objectives, and to formulate themes of methodological support.

At the established diagnostic and forecasting stage, a questionnaire was provided to teachers and future teachers, the results of which helped to determine the level of importance and existing

problems of general and communicative language competencies mentioned in the CEFR document, as well as non-documented competencies of teachers and prospective teachers. The following table shows the preliminary results of the survey of teachers (see Table 1).

TABLE 1 THE PRELIMINARY RESULTS OF THE SURVEY OF TEACHERS

		Number of teachers (100)									
		Very important		Important		Neutral		Less important		Not important	
		1	%	2	%	3	%	4	%	5	%
1	Pedagogical competence	47	43	55	59	8	7	0		0	
2	Communicative language competence	48	44	54	49	8	7	0		0	
3	Competence of assessment	40	36	58	53	12	11	5	4	0	
4	ICT competence	32	29	56	51	22	20	0		0	
5	Pragmatic/sociolinguistic competence	34	31	32	29	41	37	3	3	0	
6	Linguistic competence	50	45	40	36	20	18	0		0	
7	Self-learning competence	69	63	38	34	2	2	1	1	0	
8	Competence of making changes	52	47	42	38	16	14	0		0	
9	Competence of being humorous	26	24	40	36	30	27	7	6	7	6
10	Research competence	65	59	50	45	5	4	0		0	
11	Curriculum competence	48	44	52	47	10	9	0		0	
12	Lifelong-learning competence	60	54	40	36	10	9	0		0	
	TOTAL:		43		42		13		1		1

The results show that teachers in higher education institutions consider the above competencies important for their work, and 85% of foreign language teachers are positive about it.

The following table shows the preliminary results of the survey of prospective teachers (see Table 2).

TABLE 2 THE PRELIMINARY RESULTS OF THE SURVEY OF STUDENTS

		Number of students (600)									
		Very important		Important		Neutral		Less important		Not important	
		1	%	2	%	3	%	4	%	5	%
1	Pedagogical competence	403	67	170	28	20	3	7	1	0	
2	Communicative language competence	386	64	183	30	25	4	6	1	0	
3	Competence of assessment	284	47	253	42	51	8	6	1	6	1

4	ICT competence	287	48	244	41	52	8	10	2	7	1
5	Pragmatic/sociolinguistic competence	250	42	264	44	70	12	12	2	4	1
6	Linguistic competence	321	53	232	39	37	6	7	3	3	1
7	Self-learning competence	372	62	184	31	30	5	8	1	6	1
8	Competence of making changes	304	51	233	39	50	8	8	1	5	1
9	Competence of being humorous	265	44	234	39	78	13	14	2	9	1
10	Research competence	328	55	205	34	51	8	7	1	9	1
11	Curriculum competence	263	44	249	41	67	11	15	3	6	1
12	Lifelong-learning competence	265	44	260	43	55	9	15	3	5	1
	TOTAL:		52		37		8		2		1

Almost 90% of prospective foreign language teachers also consider the competencies requested in the survey to be important to them.

We took an initial test from prospective teachers to test how well the survey participants knew the communicative language competencies mentioned in the CEFR document and how familiar they were with the CEFR document.

Of the 599 students, 48% answered the test questions correctly and 52% answered incorrectly (see Figure 1):

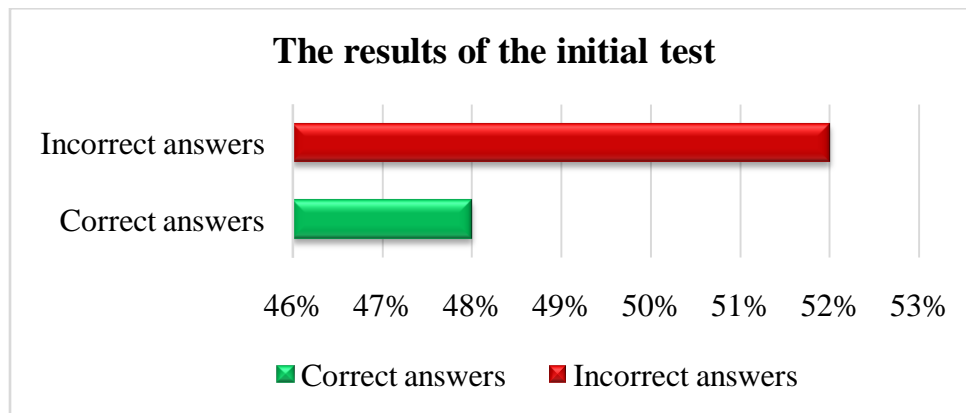


Figure 1. The results of the initial test

These results require an exploration of the root of the problem being studied. Taking into account the mistakes made by students, we were interested in their curriculum and content of undergraduate students in the field of foreign languages and literature, i.e. future foreign language teachers, and analyzed the level of coverage of the problem identified in it.

Since our research is directly related to the CEFR document, we researched the curricula of 4th year undergraduate students in the field of foreign languages and literature who are future foreign language teachers, and according to our analysis, we have found that the CEFR

document only covers in the course called “Integrated course of foreign language teaching” in the module 10, called “Language testing and assessment course”.

Below we have given an example of the syllabus, and as it can be seen, only the third topic devoted to acknowledging about the CEFR document and is divided into 2 hours of practical and 1 hour of independent study (see Table 3):

TABLE 3 “LANGUAGE TESTING AND ASSESSMENT COURSE”

No	Activities	Themes	Hour	Hours of ind study
1.	Practical	Types of Assessment; formative and summative	2	1
2.	Practical	Testing; Validity, reliability, practicality, criterion referencing, norm- referencing; Test types (proficiency, achievement, progress etc.)	2	1
3.	Practical	Common European Framework of Reference	2	1
4.	Practical	Testing methods (multiple choice, matching, multiple matching, gap filling, etc.). Steps of designing tests (instructions, questionnaires)	2	
5.	Practical	Testing written language; techniques and criteria	2	1
6.	Practical	Testing reading; techniques and criteria	2	1
7.	Practical	Testing listening; techniques and criteria	2	1
8.	Practical	Testing speaking; techniques and criteria	2	1
9.	Practical	Integrating language skills	2	1
10.	Practical	Testing vocabulary and grammar; techniques & criteria	2	1
11.	Practical	Alternative assessment (portfolio, self-evaluation, project work, diaries, reflective feedback etc.)	2	1
12.	Practical	Designing tests for language teaching; planning, drafting and formalizing	2	1
13.	Practical	Designing tests for language teaching; planning, drafting and formalizing	2	1

Therefore, it should be noted that the topic of the CEFR document in this module 10 is intended for one lesson. Such a distribution of hours is not aimed at developing the skills and competencies of future teachers through CEFR and gaining a sufficient understanding of CEFR. The reason for this is that in such a distribution of hours, students are only able to acquire a very small amount of knowledge on the CEFR. When analyzing the textbooks indicated in the syllabus, it was shown that there are only theoretical literature written by foreign authors on this subject, and there are no practical textbooks.

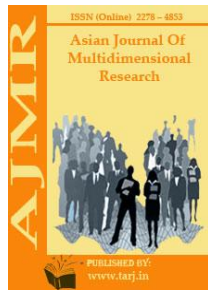
CONCLUSION

In summary, based on the above data and research findings, we conclude the following about how well teachers and students know the communicative language competencies mentioned in the CEFR document and how much they are aware of the CEFR document. First, the level of importance of general and communicative language competencies mentioned in the CEFR document of educators and students currently working in the higher education system, as well as the importance of competencies not mentioned in the document, was determined. Second, the analyzed curriculum and the distribution of topics and hours in it need to be revised. Third,

methodological support for the problem under study needs to be created in a practical way. Fourth, the need to create an exercise system based on the communicative competence given in the CEFR document was identified. Taking into account these same problems, we have developed a system of methodological support and exercises for 4th year undergraduate students, i.e. future foreign language teachers, aimed at improving all language skills and the formation and development of communicative competence given in the document on the basis of CEFR regulations.

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INTERPRETATION MAHDUDOT (LIMITED UNITY) IN WAQFIYA

Burobiya Rajabova*

*Leading Researcher,
Institute of Uzbek Language,
Literature and folklore of the Academy of Sciences of UZBEKISTAN

ABSTRACT

Financial worship and its types is an important concept that has existed since ancient times in Islamic enlightenment. There is a certain amount of analysis and interpretation in this regard, for example, a study or collection of documents on the financial prayer of Sheikh KhojaAhrorWali, a major proprietor of the Timurid Renaissance, a great representative of the Naqshbandi sect, recorded in volumes of foundation documents [1, p. 145]. In Navoi studies, the issue of AlisherNavoi's financial prayers is being studied for the first time by the author of this article. In his works, the great poet and statesman created exemplary poetic plates, complete with very important information, comments and commentary on the types of financial worship, such as waqf, zakat, fitr, tithe, ransom, as well as work, wages or wages.

KEYWORDS: *Financial Prayer, Waqf Zakat, Information, Commentary, Terminology, Artistic Interpretation.*

INTRODUCTION

According to our study, the waqf is one of the main financial prayers of Navoi. Mahdudot (limited unity) is the special name of a chapter written by Navoi in the work "Waqfiya". AmiriKabir himself emphasized this in his note, which ends with "The introduction is over and the limit has come" [2, p. 265] in the play, as well as in the concluding remarks of this chapter. Importantly, in this chapter he sought to acquaint himself more closely with his financial prayers, such as waqf, waqf law. However, from the point of view of linguistics, the word "restriction" is an economic term, a concept that means limited, enclosed, defined areas, land, water, etc., property [3, p. 384, 78-79].

It is known that AlisherNavoi was honored not only as a genius artist of the Timurid Renaissance, but also as a great owner of this glorious period, an unparalleled coach and protector.

THE MAIN FINDINGS AND RESULTS

Important information and details about this are well covered in the historical and literary sources of the Navoi period, in the documents of the foundation, as well as in a number of his works. In particular, the limited chapter he wrote in *Waqfiya* is a very important source for researchers. The essence of the restriction is that it plays an important role in the study of socio-political, economic relations and administrative methods of the period in which the author lived, as well as documentary work. Because the great Navoi wrote down the list of all the real estate, types of property, the names of the territories where he was endowed with his pen. As far as we know, Navoi gave a brief account of the endowment of real estate (no information on movable property - B.R.) and its conditions, such as lands, arable lands, profitable lands, and buildings, sewers, which were identified and marked on the basis of waqf documents certified by the seal of the Islamic judge. This restriction is an important source in addition to the Persian-language foundation documents on the waqf property of Navoi and a sample written in Uzbek. In this regard, the author himself: "... the boundaries of the waqf are in the city and in the tawba, the mujmalan (in short) will be mentioned, and the details will be stated in the Persian waqfs, which are inevitable" [2, p. 265], he said. He set aside the proceeds from his constraints for the maintenance of mosques, madrasas, hospitals, rabotas, khanaqahs, and hundreds of other public buildings, which he built at his own expense as the unparalleled coach and protector of his time and as a generous, wealthy landowner; his exemplary aspects of his devotion to the cause of self-interest show, first, that his financial prayer was also extremely perfect. Secondly, the genius recalls the titles of Sultan Hussein Boykaro and Makarimul-akhlaq, Shams ul-millat, which sounded as a symbol of the boundless respect, sincerity and recognition of the people.

The restricted chapter of the "*Waqfiya*" is written in a formal style, which is evident in the form of expression and statement used by the genius writer in the interpretation of the types of real estate donated in this documentary chapter. The limited season differs from other seasons of "*Waqfiya*" by the following features. First, the great emir gave a brief account of the real estate of the Timurid-ruled Khurasan state, that is, in the words of the king and poet Babur, the capital of Temurbek's hometown, Herat, and outside the city. Secondly, all the types of real estate he donated were legal, that is, "shar'i" and protected by law, and all the details of his real estate were clearly written in Persian in the foundation's documents and sealed by an Islamic judge in the presence of witnesses. Thirdly, he strictly adhered to the principles of openness, openness and transparency in the conduct of property matters, especially waqf affairs; It is well known that "... The tribe was perfected by the seal and testimony of the people as the king begged, and ruled in the presence of the koffananom (all), this and mabsut" [2, p. 265] was aware of these limitations, from the ruler of the period, Sultan Husayn Bayqara, to the common people. It also pointed out that there were no forms of shadow economy in general, and that its conditions were legitimate, indicating that there were no ways to make money or to acquire real and movable property through covert means contrary to Sharia.

All of the endowed real estate in the city of Herat, Navoi, is in the form of buildings such as *tim* and shops, the number of which is more than thirty, and its important conditions are presented. Also, the real estate endowed outside the city of Herat, namely Olinjonbuluki, Farroshonmavzesi, Injilbuluki, BogiMurgan, SiyavushondinKhojaShihobmahalla, SabgurbulukiSabadaRavon village, Sifliymahalla, Hirotrud province Gulerli, income, In the form of gardens, orchards, palaces, and foundations, such as the canal, the canal, the Tudagi corridor in the Bodhisattva region, the Paragach corridor in the Gumburak boulevard.

The restriction has its own concluding part, with the great Navoi summarizing the restriction as “This is a general restriction, the territory of which is inevitable in waqfs, and it is vague (very short) on this page; the sahih of the foundation of the above-mentioned bhikkhu was made shari'ah” [2, p. 267].

Apparently, Navoi's restrictive chapter in Waqfiya, firstly, informs us of his endowed real estate and the authenticity of their waqf, secondly, serves as a model for the owners of all periods, the image of Navoi and his financial worship, and thirdly, New It reminds of the need to strictly adhere to the principles of openness, transparency and openness in the organization and conduct of reorganized foundations in Uzbekistan.

Another type of financial worship is zakat. AlisherNavoi's book “Sirojul-Muslimin”, dedicated to the five main pillars of the holy religion of Islam, is the third pillar of Islam, zakat. In a separate chapter entitled “Explaining” he wrote a lyrical note about the characteristics of zakat:

Zakoto'ldiuchinchiruknbilgil,
Nechukkim, amrqilmishTengriqilg'il.
Kishisohibnisobo'lgunchama'mur,
Emaskim, haqtutubturanima'zur.
Nisobo'lsakishimolig'azohir,
Ayirmoqfarzkeldiqirqdinbir [4, p. 285].
Zakat is known to be the third pillar of death,
For God commands.
The administrator until the person dies,
I'm sorry to hear that.
When the nisab dies, the person becomes wealthy,
It is obligatory to separate forty-one.

In AlisherNavoi's commentary on Nasayimul-Muhabbat, we read an interesting report about Sheikh Abu Abdullah Duniy, etc., about the saint's financial prayers related to zakat. Whenever he would recite the verse of zakat or handout, I would gladly take out something from his clothes, take it out of the door, and let everyone do it! [4, p. 186]” This message also warns us that the issue of zakat is an issue covered in the verses of the Qur'an.

AlisherNavoi in his reprimands also paid special attention to issues related to zakat. For example, in the 57th letter of the Munshaot to the Crown Prince BadiuzzamanMirza, we mourn him and emphasize the following: If the word “stamp” is not present in that region. If the zakat is made exclusively by the zakat people with the knowledge of Shari'ah and rulings. If the zakat payers find a waqf in the month of May, but not in the week, and make a request. “If there is a general policy of imposing individual fines, there is no shit, as long as there is more rujum” [4, p. 191].

Or in the twenty-sixth chapter of Mahbubul-Qulub, which he completed in the last days of his exemplary life, in the dhikr of the business people, “... If the case of the non-followers of the Riyadh is not under the Shari'ah, then the citizen should not be entitled to the right, or the property should be cherished, humiliated, and the property should be stolen and humiliated, or it

should be collected for the heir, or the incident should be prosecuted. Such a person is not a master, but a hired hand, and he is always offended by his consent” [4, p. 35].

In general, Navoi uses the word zakat in his works in the sense of an annual religious tax, a financial prayer in the amount of forty-one percent of the total wealth. The text of his poems also contains an artistic interpretation of zakat. This can be seen in the lyrical plates depicting the beauty of the mistress or girls. In particular, we read in the office “Garoyib Us-Sigar”:

Zakoto'lurerdiyuzungjamolinaqdig'amehr,
Tajammulahlig'ayuzdinbiro'lsaerdizakot [4, p. 80].
Zakat was dying, the beauty of your face, love of cash,
Zakat was to be paid to the people of Tajammul.

He was excited about the fact that he strictly adhered to the rules of zakat and did not have any property, funds or reserves to pay the zakat tax because his property was built for the benefit of the people. “My soul is in zakat to the Almighty, and I will not save it until I have a genealogy in my heart. From Navoi's knowledge of zakat and his poetic interpretations, it is clear that he was well aware of the important secret of financial worship as an emir. The poet wrote, “’f you are a human being, you are not a human being, you are the grief of the people who do not have Him” He wrote the following valuable information about it in “Waqfiya”: “In return for this work, I did not ask for a reward, but I did not accept a thank-you note from the mercenary”, he said. Rubaiyat:

Eldin manga garchig'ayrizahmatyo'qedi.
Aybermas, agar muzdilaminnatyo'qedi.
El berdilar, ammo manga rag'batyo'qedi.
Shah davlatidinbularg'ahojatyo'qedi" [2, p. 267].
There was no inconvenience from the people to me though.
No offense if there was no gratitude for the reward.
They gave, but there was no incentive for me.
There was no need for them from the Shah's state.

Muzd - is a historical and economic term that means wages, salaries, wages, and was widely used in the written and oral form of the literary period of the Navoi period, and was skillfully used in the text of the genius poet's masterpieces. For example, according to the plot of the epic “Farhod and Shirin”, Prince Farhod, who has the name of Farzona, said: He digs the “Nahrul-Hayot” canal and the “Bahrun-Najot pool” in the Armenian steppes. Then the cordon Princess Mehinbonu, who eased the burden of the state and the people, explained to Shirin that the salary of Farhod is less than a hundred ganj. For example:

Bu shaydovashyigitkim, chektiko'pranj –
Ki, muzdidastangaborerdiyuzganj [4, p. 268].
This guy is crazy, he hurts a lot -
There were a hundred ganj in the ice.

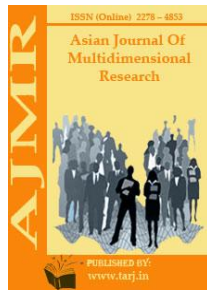
Navoi's financial prayers were in a sense reflected in his personal seal. S. Ganieva gives the following information about Navoi's personal seal and the sentences on the seal: "Kun, osha fi-d dunyo k-al gharib-al-faqir Alisher" (that is, live like poor Ali who lives in the world as a stranger or a stranger) [5, p. 9]. There is also reliable information about his financial prayers in the book "Tazkiratush-shuaro" by Amir Davlatshah Samarkandi, and in the magnificent memoir "Boburnoma" by King Babur.

CONCLUSION

It is known from history that Alisher Navoi aspired to perfection in the creative process, in his socio-political activity, in his service in public administration. So while he was striving for perfection in every field, he also tried to perfect financial prayer. Navoi's achievements in financial prayer have been described above in terms of financial prayer, such as waqf, zakat, and muzd, which we have analyzed and interpreted.

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TO THE QUESTION OF CLASSIFICATION OF SENTENCES IN KOREAN LANGUAGE

Dilshoda Rakhmonova*; Natalya Kim**

*Master's Student 2 years of Study,
Tashkent State University of Oriental Studies,
UZBEKISTAN

** Professor,
Doctor of Philology,
Tashkent State University of Oriental Studies,
UZBEKISTAN

ABSTRACT

Currently, the study of communication issues and communication strategies are becoming more relevant. The classification of proposals requires additional research. This is due to the peculiarities of complex sentences in Korean. Complex sentences in Korean are divided into different types. Causal sentences have a special structure. The classification of sentences makes it possible to successively study the formal and semantic features. Complex grammatical constructions in terms of structure and semantics are of interest in these sentences.

KEYWORDS: *Classification, Sentence, Complex, Syntactic Constructions, Korean.*

INTRODUCTION

The large number of building blocks that indicate different meanings in complex sentences in Korean makes the issue of sentence classification very difficult. Such a classification should reveal the specifics of a complex sentence in comparison with a combination of words or a sentence with major and minor members. The classification should clearly distinguish between compound and complex sentences.

It is necessary that such a classification makes it possible to sequentially describe the models of complex sentences. The description of sentences should include general formal and semantic differences, as well as particular features. In addition, the classification should determine the division according to complex grammatical constructions, structure and semantics. Finally, it is important that such a classification is precisely grammatical, so that grammatical meanings are not confused with the content contained in the main and in the subordinate clause (causal clause).

Thus, it is necessary that the classification of complex sentences be consistently structural and semantic. However, the need for a structural-semantic description of complex sentences did not immediately become obvious to all linguists. Depending on the general theoretical attitudes of various grammatical schools and individual linguists, complex sentences were understood in different ways and, as a result, were classified in different ways.

The logical direction in grammar substantiated the classification of subordinate clauses according to the composition of a simple sentence. Over the years, the classification has undergone a number of modernizations, refinements, and included a lot of necessary grammatical material itself. Despite this, the classification of sentences remained unchanged: the clauses were classified based on their correspondence to the members of a simple sentence. Hence the allocation of clauses with a subject, with a predicate, an object, etc. The main disadvantage of such classifications is that, instead of analyzing a compound and complex sentences whole with its own specific structural features and semantics, they consider external, most often very approximate analogies of the subordinate clause and members of a simple sentence.

Thus, the specifics of the complex sentence, connecting structures are ignored, relevant features are replaced by irrelevant ones. As a result of this approach, sentences that are different in structure and meaning fall into one group of sentences, and, conversely, sentences that are similar in structure and meaning fall into different groups.

In the Korean language, there are a number of complex sentences constructions that have no analogies among the members of a simple sentence, for example, complex sentences with clauses, with mutually subordinate parts, many non-free constructions. Traditional classification of complex sentences.

One of them is associated with the formal direction in linguistics and is a classification of complex sentences by means of communication, namely 조사 [josa], particles, and grammatical structures. All complex sentences in Korean are respectively divided into two groups:

- 1) With subordinate clauses, connected using conjunctions;
- 2) With subordinate clauses.

In the Korean language, grammatical structures and particles are involved in the formation of complex sentences. Further description is reduced to an inventory of attachment particles and structures with a more or less complete indication of other features. The main disadvantage of such classifications is the one-sided approach to describing complex sentences in the Korean language. Of all the specific formal features on which the meaning of a complex whole depends, only one is regularly considered here - the grammatical construction. As a result, the description of complex sentences is far from complete.

Some linguists began to divide subordinate clauses into two groups, depending on the presence or absence of a noun, pronoun or other nominal parts of speech in the main sentence, that is, a correlative word, the specific content of which is revealed in the subordinate clause. This general classification is accompanied by a detailed classification of subordinate clauses by meanings.

Formal classification is an attempt to reduce the analysis of a complex sentence to the analysis of 조사 [josa], particles and grammatical constructions. The formal organization and meaning of a

complex sentence is determined not only by grammatical constructions, but also by conjunctions and conjunctions words, other features, and in some types of a complex sentence, the core of the structure is not conjunctions, but other features.

A structural-semantic description that takes into account the entire set of formal features specific to a complex sentence as a special integral structure, and at the same time linking these formal features with certain meanings, seems to be the most productive at present. Since it takes into account both structural and semantic criteria, such a classification of sentences was called structural-semantic. It is based on the establishment of the nature of the relationship between the main and subordinate conjunctions.

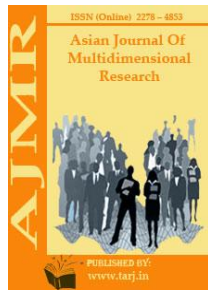
The structural-semantic classification of complex sentences has advantages over the traditional, functional-semantic. First of all, in that it relies on the structural features of the phenomenon, that is, such features that are the subject of consideration in the syntax. In addition, such a classification gives the most complete and comprehensive description of a complex sentence, since it takes into account and what the subordinate part is attached to, and how it is joined, and in what semantic relations are the main and subordinate clauses.

However, with the clarity of the initial, general provisions of the structural-semantic analysis, the classification of complex sentences according to this principle still needs to be concretized, to systematize the linguistic material, to identify the main structural types and their comprehensive characteristics. Currently, there are already several options for classifications built on this principle. However, in some, more attention is paid to structural characteristics, while in others - to semantic ones. Depending on this, the general principle of classification can be defined either as structural-semantic or as semantic-structural. In this case, the semantic-structural principle is chosen in the description of complex sentences.

Thus, as noted above, the classification of a complex sentence as such, in comparison with a combination of words or with the spread of a sentence by one or another member, and at the same time to find similarities between these units. It is necessary that such a classification would make it possible to sequentially - from more general formal and related semantic differences to more specific ones - describe the entire richness of complex sentence models in the Korean language.

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EXAMPLES OF RESEARCH ON THE DEVELOPMENT OF NATIONAL AND CLASSICAL MUSIC LISTENING SKILLS IN STUDENTS

Elmurod Mahmudjonovich Tajiboev*

*Doctoral Student,
Namangan State University,
UZBEKISTAN

ABSTRACT

The art of national music, which is an integral part of the cultural heritage of our people, plays an important role in our spiritual life with its ancient history, deep philosophical roots, unique artistic style and rich creative traditions. Therefore, it is necessary to develop the teaching of national musical arts to students.

KEYWORDS: *Textbook, Lesson Exhibition, DVDs, Video Projector, Computer, Musical Instrument, Piano.*

INTRODUCTION

We selected the seventy secondary schools of Turakurgan district of Namangan region, the fifth comprehensive school of Toshloq district of Fergana region, one hundred and thirty-first secondary schools of Izbaskan district of Andijan region as the object of research on the topic. In order to select a topic for the experiment and plan it, interviews were conducted with school teachers. In addition, factors such as skills and competencies accumulated through scientific and pedagogical work seemed to answer the question of how to organize the experiment in the end.

We participated in music culture classes with the participation of seventy-fifth secondary school of Turakurgan district of Namangan region, the fifth secondary school of Toshloq district of Fergana region, and one hundred and thirty-first secondary school of Izbaskan district of Andijan. During this activity, open lessons, seminars, "Do you have an idea about Uzbek classical music?" we conducted social surveys on the topic, analyzed their attitudes to national and classical music processes, and taught lessons. The total number of respondents was ninety-eight. In order to ensure transparency, it was decided to conduct the survey by secret ballot. The five most important questions on the topic were selected and structured in relation to each other.

(6th grade 1st quarter 3rd lesson)

TOPIC "MUMTOZ ASHULA" ONE HOUR LESSON DEVELOPMENT

The purpose of the lesson:

- a) Educational purpose: to give students an idea of classical songs, to teach them the peculiarities of classical songs on the example of the song "Guluzorim"
- b) Educational goal: to direct students to creativity based on classical singing.
- c) Developmental goal: to increase students' musical knowledge, to develop the skills of classical singing.
- d). Communicative competence: the ability to listen to and respect the opinions of team and group members in the process of singing and working together.

Course type: new insight and knowledge.

Classroom: textbook, lesson exhibition, DVDs, video projector, computer, musical instrument, piano.

Course method: mixed, interactive, question-answer.

Course time distribution:

No	Course Distribution	Time
1	Organizational part	3
2	Request a previous topic	7
3	New topic statement <i>Use of additional literature</i>	10
4	Listen to music <i>Strengthening the lesson</i>	12
5	Singing	8
6	Homework	2
7	Evaluation	3

Course:

I. Organizational part: greeting, attendance determination, preparation for the lesson, introductory interview.

II. Asking for homework: (Example of 1-2 lesson topics for 6th grade I-quarter) Interactive game method "Battle of tests". In this case, students are asked to prepare tests on the topic of the previous lesson, and after the teacher collects the prepared test cards, the students who have prepared the test come to the last desk. The science teacher will give the test creators an incentive point of "1 point" as a thank you for preparing these tests. The tests will be read 10-15 times at a time. Each student has the opportunity to take a step forward as a result of giving the correct answer only after raising his hand, although the owner of the answer without raising his hand has given the correct answer, even though he has violated the order. It is said that it causes him to take a step back. In addition, the students sitting in the seats in the interactive game method "Battle of the Tests" also have to answer if the participating students do not answer within 3 seconds and get a score of "1" for the correct answer, it is mentioned that they can be

excluded from the game in the amount of one game turn due to not raising their hands or causing chaos¹.

Teacher:

1. What is your understanding of classical melodies?
2. What should you look for when listening to music?
3. What kind of classical music do you like?



Students who answer these questions will be given incentive points. (Incentive ball is made of colored paper in the shape of a circle.)

III. Statement of a New Topic.

(It is expedient to open the topic using the electronic methodological resource "School repertoire: an innovative approach to music education" prepared by I. Kyrgyzov, O. Azizov, A. Sultanov).

Teacher: Music is a masterpiece with a wide range of forms, developed on the basis of deep thoughts about the song. The lyrics of the song are mostly in the ghazal genre. Works with such characteristics are usually called "Classical songs" or "Folk songs". Classical songs are also created by talented singers, musicians and composers from the people. Classical songs are distinguished by their power, breadth and richness. There are so many types it's hard to say. Classical songs are widespread and popular among the people. They are "Ushshak", "Feruz", "Bayot", "Suvora", "Chorgoh". Popular songs quickly become popular and become more popular. In particular, there are several types of "Ushshak". "Samarkand ushshog", "Kokand ushshog", "Tashkent ushshog", "Sadirkhan ushshog" and others. Songs such as "Dilxiroj", "Ey sabo", "Street garden I-II", "Abdurahmonbegi", "Aylagach", "Fig'on", "I love you", "Munojot", "Tanovar" are popular which is popular among. Classical songs can be performed individually or in groups. They are performed on Uzbek national instruments. The song "Guluzorim" is one of the most popular songs among the people².

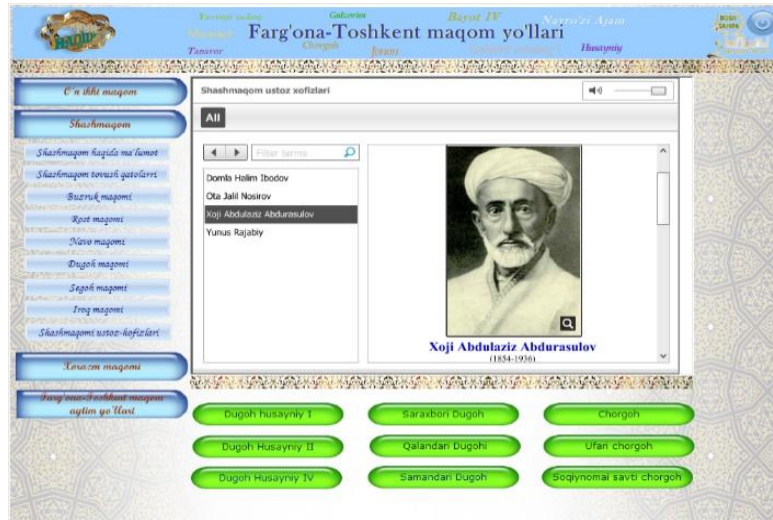
Navoi's poem "Seventy Me" is called "Guluzorim" because of the repetitive recitations of the hymns composed by Haji Abdulaziz Abdurasulov.

Based on the Savti Ushshak branch of the Rost maqom in Shoshmaqom, this work is performed in the style of $\frac{3}{4}$ -dimensional moving melodies, in the G-dur tonality. In different years,

"Guluzorim" was performed by O.Imamhojaye, O.Alimahsumov. "Guluzorim" is also performed as a musical instrument³.

Teacher: The Shashmaqom section of the e-learning resource "School repertoire: an innovative approach to music education" provides students with the necessary information about the life and work of the famous hafiz Hoji Abdulaziz Abdurasulov. can reach.

XOJI ABDULAZIZ ABDURASULOV(1854-1936)



Haji Abdulaziz Abdurasulov was famous as a famous hafiz and composer and was born in Samarkand to a family of weavers in the Blue Mosque neighborhood. His passion for music began at a young age, when he became a student of the tanbur player Haji Rahimqul, and learned to sing from Boruh Hafiz, a makom singer. Later, he went to Bukhara to study Shashmaqom and took lessons from the famous maqom teacher Ota Jalal Nosirov. Hundreds of songs were included in his programs, and in addition to memorization, he also composed. His songs "Gulzorim", "Bozurgoniy", "Beboqcha" and "Qurbon Olam" are popular among the people. In 1909, in his performance, the Riga firm Gramafon recorded "Iraq", "Nasrullovi", "Ushshaks". Haji Abdulaziz Abdurasulov and teacher Halim Ibodov were awarded the honorary title of "People's Hafiz of Uzbekistan" at the first meeting of Uzbek artists in February 1933 at the age of eighty. The sacred name of the teacher was honored during the years of independence. By the decree of the first President, he was awarded the Order of Merit. The Republican contest of young singers will be held in his name in Samarkand⁴.

GULUZORIM
Hoji Abdulaziz Abdurasulov musiqasi

M.M. $J = 112$

Do'st-la-rim (ay), bir no-za-nin (o)
ish-qi bu hol et-mish me-ni,
zul-fii) sav- - - do-si (ya) a-lif
qad-dim-ni dot - (do-da) et-mish me-ni.

Listen to Music:

The song "Guluzorim" will be performed by the People's Artist of Uzbekistan O.Imamhojayeve accompanied by the ensemble of maqom players led by People's Artist of Uzbekistan, Academician Yunus Rajabi. (School Record: An Innovative Approach to Music Education will present a presentation of the proposed work in the electronic methodological resource)⁵.

IV. Strengthening:**"LISTEN TO MUSIC" GAME**

In this case, the works studied mainly on teaching aids (DVD, computer, tape recorder, telephone) or on any musical instruments (except percussion instruments) through music lessons in the lower grades "Dilxiroj", "Ufor", "Lazgi", "Guluzorim", "Janon bolaman deb", "Naylayin", "Otmagay tong", "Samarkand ushshoghi", "Kokand ushshoghi", "Tashkent ushshoghi", "Sadirkhan ushshogi", "Ey sabo", "Street garden I-II", "Abdurahmonbegi", "Aylagach", "Fig'on", "I love you", "Munojot", "Tanovar" and others /k.s also listen to excerpts from musical performances that are familiar to students (performed by well-known master hafiz) on radio and television. In the process of listening to these works, students are required to recognize the sounds of the works, to know the name of the work, the composer, the duration of the lyrics. Accordingly, this activity is carried out as follows. Initially, students are divided into groups of girls and boys, sitting in their seats.

Along with the works studied in music lessons with the help of existing equipment or musical instruments, songs that are popular on radio and television are now performed throughout the country. Students who are the first to raise their hand and answer correctly will be given incentive points⁶.

Thus, the team that scores seven points is declared the winner and the winning team is applauded.

Students may be asked the following questions during the listening process.

1. What works are called classical songs?
2. Who performs classical songs?
3. Which of the classic songs have you heard?
4. What reality do you feel when you listen to "Guluzorim" and what scene do you see in front of your eyes?

V. Singing:

Students will first be given a sound adjustment exercise.



6th grade 1st quarter, 2nd lesson Jumaniyaz Jabborov's poem, Habibullo Rakhimov's music and we will sing the song "Children". The work is performed in a fast, attractive way, 2/4 scale, C-dur. The 1,3,9,11,20,22 T (beats) of the work consists of a set of semicircular notes, the last half

note in the next 2,4,10,12,21,23 T (beats) lengthened to a semi-note, it adds a special charm to the work.

"CHILDREN"

It's like a garden of flowers
 Tulips in the hills.
 The future of Uzbekistan -
 Children, children, children!
 We are cheerful, funny, and masculine
 Or waterfalls from the mountains,
 Bright morning to the homeland,
 Children, children, children!
 The sun shone on your head,
 Like dew showers. Eternal gold fibers.

We are proud and happy, Iqbal embraced us,
 Children, children, children! Children, children, children!

V. Homework:

Strengthen the theme. Compilation of a set of tests on classical songs. Memorize the text of the song "Tashkent" performed by Usmon Kochkor, music by Hurshida Khasanova.

VI. Rating:

Students who actively participate in interactive play methods and lessons by preparing tests and abstracts will be evaluated.

In conclusion, the role of such innovative educational resources in the formation of high musical knowledge and thinking in students is invaluable. After all, it is the civic duty of each of us to bring up the younger generation as worthy heirs to our great ancestors.

(4-Sinf.III quarter. 3-dars)

TOPIC: GOD'S WORDS.

Course Objectives:

- A) Educational: in this case, students understand the basis of our ancient national values, identity, national mentality in the image of God.
- B) Educational: through God, students learn from the melody that runs through the virtues of man, the qualities of a spiritually mature human being.
- C) Development: inculcating in students the worldview of the qualities of tolerance, kindness, humanity through the sounds of God.

Classroom: thematic pictures, visual aids (small cradle, doll, etc.), equipment (DVD, VCR, computer), musical instruments, Whatman paper, marker, tape.

Course Method: Active Learning Technology.

Type of lesson: new educator.

Course Description: The teacher divides the class into three groups in a row. Gives team names that activate and uplift teams (Zukko, Ziya, Zukho, etc.) and explains them briefly.

Students will be asked to write a new topic on a blackboard in their notebooks. The teacher then hangs three Whatman sheets of paper on the class board (with scotch tape and a magnet). In the middle of each Whatman is "Where does the Homeland begin?" the image of the sun emitting light will be captured. During the allotted time, the teams write "Addresses of the Homeland" in front of the sun. When the teams have completed their work, the teacher will link the content of the work to today's topic. If the phrase "Starting from the Cradle" is used with the students' confession, light upon light. If such a phrase is not used, the teacher uses the written information to direct the Motherland to the idea that it begins in the cradle. Brainstorming: "The cradle is..." (the teacher explains that in one minute the participants should write down their thoughts about the cradle in the music notebook, and at the end of the allotted time they should tell the texts written by four students who are ready in the teams). This activity requires the teacher to positively assess students' free imaginative thinking in any situation. Integrate the subject with history, fine arts, national ideas and other disciplines. After analyzing the students' activities, the teacher shows the picture of the cradle to the students and asks them to pay attention to its history. Sources about the cradle can also be found in the famous scholar and poet Yusuf Khas Hajib's Qutadgu Bilig. The hadiths of our Prophet Muhammad (S.A.W.) "Seek knowledge from the cradle to the grave" and also the words of Allah, the Creator of the universe, "Did We not create the earth as a resting place like a cradle?" (Surat an-Naba') This verse shows that the cradle has been inherited from ancient times. In addition, the semicircle (flange) on the sides of the head and feet of the cradle, the lower and upper parts of the cradle have an oval shape, similar to our mother planet (a globe map with a map of the world or a photograph of our planet from space). Students write in their notebooks the content of historical figures, hadiths and verses. Brainstorming: Why is a baby in a crib called God? " the answer to this question will be heard from three of the participants in each team.

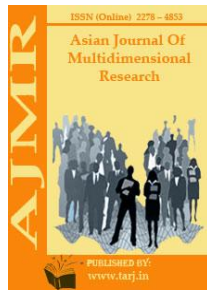
CONCLUSION

This unique art, which for centuries has been shaped by the hard work and dedication of great poets and scientists, talented composers, singers and musicians, creative thinking, has gained great fame and attention not only in our country and the East, but around the world. The fact that Shashmaqom, the flowerbed of the art of music, has been recognized by UNESCO as an intangible cultural heritage of mankind and included in its Representative List is a clear confirmation of this.

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THE ROLE OF TAX INCENTIVES IN ECONOMIC GROWTH AND THE METHODOLOGICAL BASIS OF THEM

Ernazarov N.E*

*Assistant,
Department of Finance,
Samarkand Institute of Economics and Service, UZBEKISTAN

ABSTRACT

This article discusses the theoretical and methodological approaches to the study of tax incentives, the impact of them on economic growth and the development of scientific proposals to further improve the management of the tax mechanism and ways to stimulate the growth of sectors of the economy.

KEYWORDS: *Incentive, Tax, Enterprise, Budget, Local Budget, Income, Tax Base, Taxpayer, Investment Project, Sustainability.*

INTRODUCTION

The taxes play an important role in the development and stability of our national economy: structural changes in the economy, economic growth rates, living standards and competitiveness of enterprises. Tax incentives are often used to stimulate the economy through financial and credit mechanisms. Therefore, the urgency of the issue is determined by the fact that there are problems such as the lack of a mechanism to monitor the impact of tax incentive on the economy, the fact they are not provided based on the results achieved. Theoretical and methodological approaches to the study of have been widely presented in foreign and domestic literature, but despite the theoretical significance of this work, almost no attention has been paid to the impact of tax incentives on economic growth.

ANALYSIS OF THE RELEVANT LITERATURE

To begin with, economist O. Olimjanov defines the existing category of taxes:[8]. This definition of taxes is the most appropriate definition, which helps to gain a clearer picture of taxes by providing a deeper theoretical understanding of the nature of taxes, their place and role in the economy, the process of movement of taxes.

Economist M. Zabalueva has scientifically argued that the stimulation of economic development is achieved by increasing the amount of money that remains at the disposal of the taxpayer after the payment of taxes [6].

T.Malikov, one of the economists and specialists of the Republic, stressed about the impact of taxes on activity, noting that "with the help of taxes can affect the development of this or that branch of entrepreneurial activity" [5].

F.R. Akhmatullaeva described tax incentives as an economic category: "benefits are a set of ways, rights and obligations to reduce the taxpayer's tax obligations in whole or in part in the manner prescribed by law in order to regulate the economy and solve social problems" [7].

An important aspect of the country's modern tax policy is to maintain the stability and resilience of the tax system against the background of the use of tax instruments to stimulate growth in sectors of the economy. Tax incentives should be in the interests of the state, promote economic growth. However, tax incentives do not contribute to the growth of investment and innovation activity of enterprises. At present, innovative development is one of the important tasks facing the country. At this stage, tax incentives are an important component of current economic policy. It can be used to neutralize market crises and encourage investment that has a positive external impact on the market. With the help of tax incentives it is possible to regulate the level of investment and innovation activity of organizations, as well as to stimulate employment growth. Thus, it is important to pay special attention to the tools of tax incentives, as well as to assess its effectiveness.

According to the Tax Code of the Republic of Uzbekistan, tax incentives are defined as follows: Certain categories of taxpayers have advantages over other taxpayers provided for in the tax legislation, including non-payment of taxes or the ability to pay them in smaller amounts [1].

RESEARCH METHODOLOGY

During the process of the researches of this article, the concept of "tax incentives" was scientifically studied and analyzed on the basis of the research and opinions of economists.

ANALYSIS AND RESULTS

Effective tax administration, which ensures the stability of the tax system, also plays an important role in shaping tax instruments to stimulate the growth of sectors of the economy. In this regard, in our country, the Resolution of the President of the Republic of Uzbekistan dated July 10, 2019 No PP-4389 "On additional measures to improve tax administration." According to the resolution, a strategy for improving tax administration was developed and in accordance with the strategy to improve tax policy and reduce the level of turnover in the economy, develop service-oriented tax services, introduce a system of tax risk assessment and improve tax accounting, develop anti-corruption mechanisms in the tax service. The "Roadmap" for the implementation of the strategy for improving governance was approved [4].

Improving the system of management and control over the collection of taxes and other mandatory payments will lead to an increase in revenues to the budget of the country's budget system. The Law of the Republic of Uzbekistan No. ZRU-659 of December 30, 2020 "On the State Budget of the Republic of Uzbekistan for 2021" provides for the creation of a transparent system for evaluating the effectiveness of other economic policy measures within the main directions of tax policy [2]. Aimed at more rational and effective use of tax incentives and

increase the efficiency of budgeting of targeted programs in general, the forecast of revenues of the republican budget for 2021 amounted to 1 billion soums.

**TABLE 1 FORECAST OF THE REPUBLICAN BUDGET REVENUES FOR 2021
(BILLION SOUMS) [3]**

No	Indicators	Sum	Percentage%
Revenues of the republican budget of the Republic of Uzbekistan		120 231,7	100
1.	Direct taxes	32 515,5	27,1
1.1.	Income tax	26 064,8	80,2
1.2.	Income tax from individuals	6 450,8	19,8
2.	Indirect taxes	60 145,9	50,0
2.1.	Value added tax	46 955,4	78,1
2.2.	Excise tax	9 439,3	15,7
2.3.	Customs duty	3 751,2	6,2
3.	Resource fees and property taxes	12 919,9	10,7
3.1.	Subsoil use tax	12 919,9	10,7
4.	Other income and other non-tax revenues	14 650,4	12,2

As can be seen from the above given table 1, the revenues of the republican budget of the Republic of Uzbekistan amounted to 120,231.7 billion soums. In particular, direct taxes amounted to 32,515.5 billion soums to 27.1% of total revenues, indirect taxes - 60,145.9 billion soums to 50.0% of total revenues, resource fees and property taxes - 12,919.9 billion soums to total revenues. 10.7% and other revenues and other non-tax revenues amounted to 14,650.4 billion soums, which is 12.2% of total revenues. At the same time, with the implementation of structural changes in the tax system, the income tax on direct taxes amounted to 80.2%, personal income tax - 19.8%. At the same time, in the structure of indirect taxes, value added tax amounted to 78.1%, excise tax - 15.7% and customs duties - 6.2%.

The figures given in Table 2 show a clear confirmation that it is possible to increase the share of tax revenues in the structure of state budget revenues by providing tax incentives to enterprises.

**TABLE 2 TAX REVENUES IN THE STRUCTURE OF STATE BUDGET
REVENUES IN 2015-2020 (BILLION SOUMS) [9]**

Indicators		2015 year	2018 year	2019 year	2020 year
Income (excluding trust funds) - Total		36 493,30	79 099,00	112 165,40	132 938,00
1.	Direct taxes	8 798,40	15 656,20	31 676,80	45 206,90
2.	Indirect taxes	19 193,80	41 280,40	46 427,20	46 428,40
3.	Resource fees and property taxes	4 816,10	12 663,40	19 680,70	21 257,00
4.	Other income	3 032,40	7 971,00	14 272,80	20 045,80

From the data in the table, we can see that the change in the share of direct taxes from 2015 to 2020 was negatively affected by the abolition of the tax on landscaping and development of social infrastructure, while the increase in the share of other taxes and the introduction of turnover tax.

While the abolition of value-added tax and excise tax exemptions had a positive effect on the change in the share of indirect taxes in state budget revenues, the optimization of the tax on gasoline, diesel fuel and gas, ie its integration into the excise tax, did not have a negative impact. One of the most effective tools in the development of sectors of the economy is a system of tax incentives aimed at reducing the tax burden on businesses, which requires improving the taxation mechanism, minimizing the negative internal and external factors that affect it.

The economy pays great attention to the modernization, technical and technological re-equipment of industrial enterprises. The main goal is to provide the system with new technologies that allow to produce competitive and export-oriented products. As a result, the demand for manufactured products in the domestic and foreign markets will increase. In this case, the economic significance of tax incentives is important.

At the same time, one of the factors hindering the development of entrepreneurship in the economy is the high level of tax burden on business, albeit slightly. One of the most powerful tools for investment and innovative development in the conditions of a market economy and high risks is the need to create an adequate system of tax incentives to cover these risks.

CONCLUSIONS AND SUGGESTIONS

1. A proposal to ensure that the use of existing methods in the management of the tax mechanism is maintained at the level of material interest. These proposals take into account the fact that tax incentives have a material benefit in the calculation of taxes by enterprises, and the rest is not to reduce the tax value in the calculation of taxes in relation to this inefficient tax benefit. This will allow each privilege to increase the tax base at the enterprise level and provide additional revenue to the budget.

2. Proposal to apply tax incentives for investment projects that can be brought to the enterprises in order to attract sufficient investment, agree on the duration with the tax authorities and jointly assess the effectiveness of it. This proposal will allow to increase the activity of the entrepreneur who plans to implement each investment project, reduce the threshold of tax incentives and make a certain amount of synergistic effect.

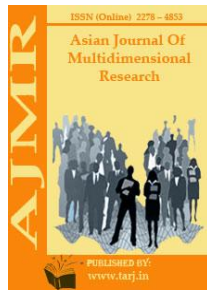
3. Encourage capital investment and investment to create new jobs in enterprises through tax incentives, expand the production of export-oriented and import-substituting goods (products).

This proposal is important in the tax system for the rational taxation of financial resources directed to consumption, and created a practical opportunity for full or partial exemption of funds directed to the development of production. As a result, the taxation of consumer funds is based on economic limits, according to which, in addition to the financial resources left at the disposal of the enterprise, jobs are created and inefficient costs are reduced to some extent.

4. The author's proposal, which recognizes that the main task of tax policy in the enterprise sector is to create opportunities for consumer demand. At the heart of this proposal is an additional opportunity to gradually shift the tax burden from the enterprise to the consumer and, accordingly, to expand the tax base within the enterprise.

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THEORETICAL FUNDAMENTALS OF THE DEVELOPMENT OF EUPHEMISMS

G. Safarova*

*Senior Teacher,
Department of Linguodidactics,
Tashkent State University of Uzbek Language and Literature named after A. Navoi,
UZBEKISTAN

ABSTRACT

The article provides information on the study of taboos and euphemisms in world and Uzbek linguistics, the views of researchers on the study of euphemisms, as well as the level of study of the problem. The application of euphemisms in the process of social communication, its appearance, types and advantages in communication are described.

KEYWORDS: *Taboo, Euphemism, Dysphemism, Language, Speech, Communication, Euphemistic Units, Euphemistic Meaning, Euphemistic Events, Speech Culture, Argotism, Social Speech, Ethnolinguistic Views.*

INTRODUCTION

Today Uzbek linguistics has successfully passed its period of “speech-language” based researches, rapidly moving to its new level-“language-speech” basis. In other terms, some serious investigations are being held to determine verbal development of lingual commonalities with theoretical linguistics. The fact that a number of socially and economically effective fields, such as sociolinguistics, cultural linguistics, psycholinguistics, computer linguistics that deal with practical happening of the language and its effective usage are thriving is a clear evidence of it. Euphemisms, that are unique appearances of verbal incidents of Uzbek language lingual opportunities, clearly emphasise language and culture, language and soul union and decency, respect, pride, kindness of Uzbek nation are considered as priorities and euphemism is used to define them. Communicating, describing the incident, expressing it between taboo and euphemistic people are three mutually linked layers, which are: language(information, relation), speech(relationship, communication),

Superspeech (euphemistic, exclusive-emotional communication), according to linguist A. Omonturdiyev. Speech is the evolution of language and euphemistic layer is in turn evolution

of speech. Euphemistic speech is considered as supreme form of human intelligence, or so called “core”, decorated, composed and eased form of reality.[1]

In support of the professor's views, we can also note that the euphemism is the use of good and harmless words and phrases instead of bad, uncensored words and phrases that can hurt one's self.

Euphemisms are used to avoid calling a negative reality, to minimize the negative impact of situations that are rude and ugly to say, likely to offend a person, to annoy him, to show disrespect, to violate ethical norms, or to express a hidden reality that cannot be said directly. For example: instead of saying he died, he passed away, expired or lost his life. In terms of origin, euphemism is derived from the Greek word and means “I speak well”. Using softer word or phrase instead of using rude, abusive word or phrase that are prohibited or inconvenient to use for any reason. For example, failure is an “incomplete victory.” On this issue, the linguist A. A. Reformatsky defines “euphemisms as words that can be used instead of forbidden (taboo) words.” “The Linguistic Encyclopaedic Dictionary” defines euphemisms as “emotionally neutral words that are synonymous with words and expressions that are inappropriate, unpleasant, or rude to the speaker.

A. Hodjiev's “Glossary of Linguistic Terms”, reprinted in 2002, defines euphemism as follows: the use of a rude, obscene word, phrase, or taboo instead of a rude, obscene word, phrase. For example, using the words pregnant, instead of expectant or heavy.

Taboos and euphemisms have been studied by many Turkic nations, like Kazakh, Turkmen, Altai, Azerbaijani, and Uzbek linguists. We can cite monographs of linguists such as S. Altaev, N. Ismatullaev, N. Jabborov. Of these, the Uzbek linguist N. Ismatullaev's dissertation deserves special mention. In his research, the author collected information on taboos and euphemisms, commented on them, generalized, came to certain conclusions [2].

The research works of other linguists also give opinions regarding euphemisms. For example, H. Shamsiddinov expresses his views on euphemistic functional-semantic synonyms of words [3], A. Mamatov in his doctoral dissertation, focuses on the euphemistic and dysphemetic formation of phraseology. Some works on literary language also focus on euphemistic meaning. In particular, the scientist Z. Kholmanova, who specially studied the lexicon of “Boburnoma”, also commented on the euphemisms used in it. [4] The scholar notes that the euphemistic expressions in “Boburnoma” give a reasonable idea of the semantic structure, emotional and expressive features of the lexicon of the old Uzbek literary language, the author's linguistic skills, the method of artistic description. The work analyzes the euphemistic units of the concept of “death” and describes its forms used for specific semantic and methodological purposes.

Euphemisms are a linguistic and socio-cultural phenomenon with a long history in terms of origin. The study of euphemisms overcomes the difficulties and complexities that arise in the process of intercultural communication and ensures that communication is successful and effective. There are many sources in general linguistics, Turkology, including Uzbek linguistics: scientific works, articles, theoretical ideas on the causes of the phenomenon of taboo and euphemism, for what purpose they are used.

Thus, euphemism as a multifaceted linguistic phenomenon should be studied in terms of 3 interrelated factors: 1) the social factor, which is based on social euphemisms that embody moral, ethnic and religious values, 2) the mental factor, which is based on careful treatment, like

naming certain objects and events directly can cause negative emotions, embarrassment, embarrassment. Words that replace them soften the negative attitude. 3) The linguistic factor stems from the proliferation of dysphemistic units, the need to replace unpleasant phrases and words with emotionally colored words, i.e. euphemisms, that expand the stylistic potential of the language. Thoughts about taboo and euphemism in general linguistics can be divided into three main groups. They are: 1- euphemism arises under the influence of primitive worldview (taboo) and disappears in the cultural stage of society; 2-the fact of euphemisms exists as a passive lexical layer; 3-those who say that euphemisms also serve as a means of speech, style [5].

In 1997, A. Omonturdiev studies the euphemism of Uzbek speech as a wide-ranging study of euphemism as an object of study of methodology, which already has to be solved. He believes that euphemisms should be studied in an etymological, socio-cultural aspect. He learns the methods of expression, dividing euphemisms into general and private speech euphemisms according to the degree of application. This classification study provides more practical information about euphemistic units in the Uzbek language. [6].

Over time, the development of language, the solution of global problems, the rise of methodology to the status of public speaking, including the fundamental study of speech in all branches of professional speech - herdsman, hunter, farmer, lawyer, journalist, diplomat, baxshi, doctor, wrestler, waterman, weaver, seamstress, blacksmith This period requires problems such as recording their euphemistic means, and in particular A. Omonturdiev in his doctoral dissertation "Professional speech euphemisms" devoted to the ethnolinguistic description of euphemisms of a particular field, ie euphemisms specific to livestock speech, in order to address the above issues, in particular, life, lifestyle, customs, worldviews, customs studied the euphemisms that arose in connection with it [7].

Scientist Nemat Ismatullaev in his 1964 study "Euphemisms in the modern Uzbek literary language" collected a wealth of information on taboos and euphemisms, the author expressed his views. N. Ismatullaev thematically groups euphemisms in the Uzbek language. For instance:

- 1) Euphemisms used instead of the name of poisonous insects;
- 2) Euphemisms used instead of the name of wild animals;
- 3) Euphemisms used in the language of women and etc.

In addition, the scientist analyzed the importance of euphemisms used in the speech of each social stratum in communication, their value in enriching the content of the dictionary. This work will serve as a basis for the study of issues related to this area, including euphemism at next level. Олим А. Омонтурдиев also continued N. Ismatullaev's views on taboo and euphemism , exploring the euphemistic basis of Uzbek speech in a broad sense, studying euphemism as "a subject that has already had to be resolved as an object of study in methodology." In 1997 he defended his dissertation on "Functional and methodological features of euphemistic means", developed a wide range of topics, published works such as "Euphemistic bases of Uzbek speech", "Professional speech euphemisms" and "Dictionary of one word", "Art of word application", "Short Euphemistic Dictionary of the Uzbek Language" [8].

Expressions loaded with euphemistic meaning have been of interest to scientists since ancient times. O. M. Freudenberg's "The Ancient Theory of Linguistic Style" states that the concept of euphemism was also mentioned by Democritus, Plato, and Aristotle [9]. So, this language unit was known, used in ancient times and still being used. Euphemisms first appeared in English in the XII-XV centuries. There is also a belief, that in the XIV century, French culture began to become a tradition, which is also reflected in language.

The scientist who studied the history of the English language, R. Burchfield, while researching the example of euphemistic units of Choser's poetry, acknowledges that euphemism is a very convenient methodological tool of poetry. R. Burchfield notes that Choser was the first to give an euphemistic form of intimacy in his work. V. Shakespeare, on the other hand, violates this direction, expressing his images with emotional units, using euphemisms only as a means of enhancing stylistic color [10].

Linguistically, taboos and euphemisms have been studied since the late nineteenth century. A. Mayo defines this process as a change in word semantics, after studying the linguistic features of taboos and euphemisms in the example of ancient languages. Taboos and euphemisms began to be studied on a wide scale in 60-80s of twentieth century by the researches of S. Vidlak [11], J. Keynes [12], J. Lorens [13]. Later E. Partrij [14], A. Richard Spears [15], J. Newman [16],

S. Silver, D. Oax [17], K. Allan [18] and others. Lexical materials up to this period were arranged and reflected in special dictionaries (Spears, Newman, Silver, Holder). In English lexicography, euphemisms are included in annotated dictionaries. Although there are inconsistencies in the theory of taboo and euphemisms, its common features and characteristics have been identified. Taboo and euphemism are historical ethnographic phenomena that began to be reflected later in the written literature, in linguistics in the early eighteenth century, and in Turkology in the late nineteenth century. It has been the subject of scientific research in Kazakh, Kyrgyz, Turkmen and Uzbek languages since the 1950s.

The problem of euphemism has not been given enough attention in Russian linguistics for a long time, because in Soviet times there was an idea of "banning euphemisms typical of the socialist period and preferring to name them directly instead". Euphemisms are not included in the explanatory dictionaries of the Russian language, and no special dictionaries on this concept have been created. But this gap is now being filled by the research of many scientists. Many dissertations started publishing (E. Pavlova [19], A. Rodchenko [20],

E. Tyurina [21]). Also, publications have been created on this issue (H. Bolotnova [22], Z. Kikvidze [23], T. Kochetkova [24], G. Mankovskaya [25], E. I. Sheygal [26], L. Raupova. National mental features of compound sentences in the context of a work of art. 2011u. - №1. - P. 39-43. [27]. The phenomenon of euphemism has been studied by A. M. Katsev, N. S. Boschaeva, L. V. Artyushkina, V. P. Moskvina and other linguists, and its various aspects have been elucidated from different perspectives. For example, L. V. While Artyushkina studied the exchange and semantic type of euphemism, N. S. Boschaeva studied its pragmatic aspect in detail. G. G. While Kujim illustrates euphemism as a reclamation tool of language, A. M. Katsev interprets it socio-psychologically, J. Vandries says: "Euphemism is only a softer and more civilized form of the forbidden dictionary", while L. A. Bulaxovski says:

"Euphemisms are a formula for "preventing danger" by changing the original name of something or an event that evokes a bad idea and talking about them without the risk of summoning the forces of writing". K. K. Shakhjuri describes many euphemisms in Georgian and also defines

calling coward person a hero as euphemism. I.V. Arnold also briefly dwells on the lexical meaning and definition of euphemism in English, the fact that euphemism has long attracted the attention of scientists, and later for moral norms, such as the euphemism for the name of God.

Sh. Ch. Sat has also given a in-depth information about how taboo is actively

used in life of tuvas, especially in live conversations, folklore: songs, proverbs and riddles, and also in speech of herdsmen, hunters and women and most of all

in cases related with wild animals, poisonous insects and deadly cases with reference to means of euphemism used in this

The subject of taboo and euphemism, with the creative use of these existing works, was first covered in detail in the textbook "Stylistics of the Uzbek language", first written for the university in 1983. In it, the authors provide general information about taboo and euphemisms, as well as its importance as a means of speech, and even contextual individual euphemisms. L. Raupova. St. Petersburg, Russia-Hannover, Germany- 2011. - p. 105- 114. [26]

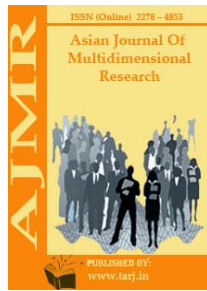
By the nineteenth century, a different cultural way of life was formed, men were engaged in production, and women had to devote themselves to their spouses and families. Moral and formal censorship started intensifying, and subtlety and speech culture were beginning to flourish. L. Raupova. The role of the native language in the process of communication and education XV / Lazarev readings // Russia, Chelyabinsk-Chelyabinsk .: 2018 –P.30-33. [27]

By the twentieth century, the euphemism for the names of not only human organs, but also animals and insects, diseases and phenomena, started to escalate. Because during World War II, as human trafficking, orphanhood, and prostitution flourished, so did euphemistic units and slang. Their spiritual characteristics began to take root in time and space, in relation to human behavior and status.

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ISSUES OF IMPLEMENTATION OF PUBLIC CONTROL IN THE PROCESS OF DEMOCRATIZATION OF SOCIETY

Ganisher Mamatov*

*Doctor of Philosophy in Political Science (PhD),
Uzbek State University of World Languages,
UZBEKISTAN
Email id: mamatov.g.s@mail.ru

ABSTRACT

This paper analyzes the issues of Social Thought and public control in democratization of society, in particular, the reflection of public control in public information policy. It was also analyzed the reform policy of the state, the issues of the protection of the rights and freedoms of citizens, the equality of citizens before the law, the consistent introduction of their conditions so that they can freely express their opinion. Moreover, democratization, Social Thought and public control in Uzbekistan have been analyzed in three main stages, namely formation, development and new phase periods.

KEYWORDS: *Society, Democratization, Sovereignty, Constitution, Multiparty, Parliamentarism, Modernization, Civil Society, Legal State, NNO, Mass Media, Public Control, Social Thought, Accelerated Reforms.*

INTRODUCTION

Speaking about the democratization of society today, after independence from the point of view of historical legality, we see democratization, Social Thought and public control in Uzbekistan as an example of three periods of formation, development and a new stage. After all, the results of sociological surveys, which determine the level of scientific analysis, international recognition and political consciousness of the population, indicate that democracy and public control passed the stages of formation and development in the period of the first president of the Republic of Uzbekistan Karimov, and in the period of President Shavkat Mirziyoyev stepped into a new stage. It should be said again that this process continues consistently (for example, the draft law "on public control" was adopted during the leadership of Shavkat Mirziyoyev, when the country was put on the discussion of the Parliament during the first presidential period, and after a thorough public discussion). In this article, analyzing this evolutionary factor in this part, we

will show the evolution of the reforms that have taken a new look at the priorities of the Uzbek model and the strategy of action.

In the transition period, the establishment of a humane democratic legal state and civil society was defined as a strategic goal, while ensuring peace of citizens and achieving economic goals were set as short – term political tasks. Since the early days of independence, the reformist policy of the state has focused on the work of creating conditions for citizens to be able to protect their rights and freedoms, to demonstrate all their equality before the law, regardless of gender, race, nationality, language, religion, social origin, status in society, to participate in the management of the state, to freely express their opinion. Thus, the political basis for democracy began to be created in the country – the principle of distribution of the subjects of power was decided, the rule of law was established, experiments were carried out to conduct a general discussion of the laws to be adopted, multiparty, a new democratic electoral system was formed.

In this article, the issues of Social Thought and public control in the democratization of society, the reflection of public control in the public information policy, the reform policy of the state, the protection of the rights and freedoms of citizens, all equality before the law, democratization in Uzbekistan, the formation of Social Thought and public control in three periods of development and New – studied on the basis of the principles of structural analysis, comparative-historical, structural, functional approach, comparative-logical, analytical, sequence, objectivity, objectivity. A number of normative-legal acts and theoretical research were used in the process of researching the object of the study.

It is known that the development of Parliamentarism plays an important role in the development strategy of society. For the radical development of democracy, it was necessary to form a parliament capable of working effectively, able to meet the requirements of modern, world standards. The newest history of national parliamentarism is divided into three main periods in which the general is recognized:

First period: 1991-1994 years;

Second: 1995-2004 years;

The third period: from 2005 year to the present time.

Initially, one chamber parliament was formed-the Oliy Majlis, which consisted of 250 deputies, deputies were elected from one mandated territorial electoral districts (which were formed on the basis of multiparty at the beginning of 1995). Later, due to the work experiences of the single-chamber parliament, which was semi-professional, parliamentary reforms were carried out, taking into account the emerging needs and opportunities, as well as foreign experiences. The first stage of the elections was held on December 26, 2004, 62 people's representatives were elected to the legislative chamber at the second stage, which took place in 2005, 9 janvar [1]. In the same way, the Legislature formed a two-chamber parliament consisting of the Pala (lower chamber) and the Senate (upper chamber).

At the initial stage of reforms in Uzbekistan, during the new period of development and modernization of our country, many international and Republican scientific-practical conferences, seminars and round tables were held. These events were attended by representatives of the general public together with public administration bodies. The conclusions and recommendations developed at the events, in particular, served to improve public control, which

was an important part of the process of restoring the foundations of civil society. Below we have tried to analyze some of their aspects related to our research.

For example, on November 24, 2005 at the Institute for monitoring current legislation under the president of the Republic of Uzbekistan organized a seminar on the topic "parliamentary control: issues of theory and practice" in cooperation with the chambers of the Oliy Majlis. The participants of the event noted that our main body, which has its own expression of commitment to human rights and social justice, and the laws adopted on its basis, serve as a solid foundation for the restoration of a humane democratic legal state and the formation of a free civil society in our country.

The establishment of a two-chamber parliament was another important step in the direction of improvement of the high authorities of the state power in accordance with the conditions of a new era, the universal norms of democracy, the construction of a legal democratic state. The participants of the event expressed their views on clarifying the concepts of parliamentary control, defining the principles, objectives, functions, forms, order and stages of control carried out by the chambers of the Oliy Majlis, committees and commissions, deputy of the legislative chamber, member of the Senate, as well as further improvement of the implementation of parliamentary control decisions by the state authorities and At the seminar, lectures on the importance of parliamentary control in the restoration of the legal state, further improvement of the legal framework of parliamentary control over the execution of laws, control over the execution of laws in the activities of the Senate of the Oliy Majlis were listened [2].

In addition, on April 24, 2007 in Bukhara was held an international round table on the topic "current experience of socio-political modern conflict and issues of ensuring stability". The conference organized by the Regional Policy Foundation and the coordinator of the OSCE projects in Uzbekistan was attended by political experts from Great Britain, Ireland, the Netherlands, Israel, India, Russia, USA, Slovakia, Czech Republic, as well as members of the Senate of the Oliy Majlis of the Republic of Uzbekistan and legislative palatasi, representatives of political parties operating in our country, experts on the study. In the course of the discussion, issues related to the introduction of legislation into the Parliament of the majority and opposition institutions, as well as a system that guarantees its effective functioning, were discussed. Legislation palatasi and deputies elected from political parties as part of the regional councils, as well as from initiative groups of citizens were considered legal measures that allow to influence the process of formation of executive power bodies in the Centers and places, effective control of government activities by the parliament, active participation in the solution of the tasks of socio-economic development [3].

In the Constitution of the Republic of Uzbekistan, each person is guaranteed the right to protect his rights and freedoms through the court, to appeal to the court over illegal actions of state bodies, officials, public associations. This constitutional norm was further strengthened by the law "On complaints to the court over actions and decisions that violate the rights and freedoms of citizens". [4]According to him, every citizen has the right to appeal to the court with a complaint, considering that his rights and freedoms are violated by the wrongful actions, decisions of state bodies, enterprises, institutions, public associations, self-governing bodies of citizens or officials. The analysis shows that today our citizens are widely using this right. After all, this right is guaranteed by law not only in our country, where the principles of humanism are a priority, but its implementation is also under constant control. Monitoring of the execution of the law, whose name is mentioned, is proof of this opinion.

For example, on September 21, 2007, the Conference of the Senate of the Oliy Majlis of the Republic of Uzbekistan on legislative and judicial issues jointly organized by the Academy of state and social construction under the president of the Republic of Uzbekistan (now the Academy of Public Administration) was devoted to the theme "reforms of Public Administration and judicial system: practice. During the conference, special attention was paid to deepening reforms in the sphere of Public Administration and the judicial system in the process of carrying out the tasks of democratization and modernization of our country. With the establishment of a two-chamber parliament in our country, Real opportunities have emerged to achieve the quality and justification of the legislation adopted, to create an effective system of mutual proportionality and balance keeping, to ensure that the interests of the people and territories are taken into account, to expand the scale of the population's participation in social and political life. In order to ensure further coordination of powers between the legislative and executive authorities, part of the presidential powers were transferred to the Senate, the rights and powers of the Prime Minister of the country were transferred. In this direction, the adoption of the Constitutional Law "on the renewal and further democratization of Public Administration, the role of political parties in the modernization of the country" has played a fundamental and decisive role in the deepening of democratic reforms, the status of the majority in the parliament and the opposition in the parliament, the election of the leaders of political parties. The established legal framework is aimed at the fact that political parties become an important means of increasing political and social activity of citizens, play a significant role in the organization of the activities of the country's Parliament, as well as in the formation of representative and executive bodies, control over their activities [5].

Special attention was paid to the creation of sufficient organizational, legal, economic guarantees, all necessary conditions and opportunities for the free development of civil society institutions in our country, their effective functioning as a specific bridge between the state and society. The decree of the president of the Republic "on the program of events dedicated to the 60th anniversary of the adoption of the Universal Declaration of human rights" [6] was an important step in further raising the status and importance of civil society institutions, ensuring their active participation in the reforms taking place in all spheres of our society.

In particular, on October 21-22, 2008 in Bukhara was held an international conference on the topic "formation of civil society in Uzbekistan: current situation, achievements and prospects". The event was organized by the Institute for the study of civil society, the Office of the National Institute of democracy (USA) in our country, The Ebert Foundation (Germany) and the University of Sukuba (Japan). Experts emphasized the important role of political parties in the implementation of the concept of "from a strong state to a strong civil society", protecting the interests of different layers of the population, ensuring diversity of opinions in society. During the discussions, the participants of the conference unanimously noted that the adoption, entry into force and implementation of the Constitutional Law of the Republic of Uzbekistan "on the renewal of Public Administration and further democratization, as well as the role of political parties in the modernization of the country" has become the next important stage of large-scale radical changes in the social.

"I want to note that significant changes are taking place in the life of the Civil Society of Uzbekistan," said one of the participants of the event, professor of gazi University Mehmet Erol (Turkey). – I was impressed by the large – scale activities carried out in Uzbekistan to mark the 60th anniversary of the adoption of the historical document-the Universal Declaration of human

rights. The program of events includes many topical areas of democratic reforms, including the development and improvement of public control, raising the legal culture of the population. All this can be an example for other countries in matters of ensuring human rights and freedoms effectively" [7]

In the speech of the first president of the Republic of Uzbekistan Karimov at the joint meeting of the legislative chamber and Senate of the Oliy Majlis of the Republic of Uzbekistan held on November 12, 2010, special attention was paid to the issue of legislative creativity and the need for further improvement of the process related to the implementation of the The conference organized at the Institute for monitoring current legislation under the president of the Republic of Uzbekistan on the theme "monitoring the implementation of laws: theory and practice" was dedicated to the execution of these tasks [8]. In it, the main attention was paid to study the monitoring of the implementation of laws and to increase the role of monitoring in further improvement of legislative and law enforcement practices.

First of all, the legal framework was created in this process. The Institute of monitoring of the current legislation under the president of the Republic of Uzbekistan, the representative of the Supreme Assembly for Human Rights (Ombudsman), the National Center for human rights of the Republic of Uzbekistan, the monitoring Center for the implementation of normative-legal acts under the Ministry of Justice, the Research Center for democratization and liberalization of judicial legislation under the. Also, a system of control over the implementation of laws implemented by the chambers of the Oliy Majlis, the prosecutor's office and the executive authorities has been formed.

As part of our research, the following are our preliminary conclusions based on the past examples:

First of all, in the process of democratization of society, the principle of "the state chief reformer" prevailed.

Secondly, the national parliament perfectly steered the complex transition phase. The concept of parliamentary control arose.

Thirdly, non-profit organizations became active in the same processes.

From the four, the principles of the international community were taken into account and strong relations with foreign Ntts were established.

In addressing the issues of social priority in society, it is necessary to strengthen cooperation between local authorities and state and public organizations, to strengthen the coordination of service systems within their competence. At the same time, the role of non-governmental non-profit organizations in understanding and expressing the identity of our people shows that the development of such institutions is expedient.[9]

Fifth, the national mechanism for working with normative legal acts was created.

In the sixth, a series of measures were developed and gradually implemented to raise the political consciousness of the population. The number of subjects of public control has increased.

Finally, during the short period of the seventeenth century, the process of democratization of society was carried out without various social shocks, without excessive interference, without socio-political storms.

The next stage of reforms:

Now we will look at the next object of our research – the new stage – the current period. True, it is not yet possible and sufficient to draw a complete scientific conclusion about this period. Because the current process of new reforms is in the same intensive phase, they need time to be completed. In this regard, it will be necessary to express opinions about the effect of the first signs of life-long reforms carried out over the past years since 2016, when Shavkat Mirziyoyev was elected president.

First of all, it should be noted that President Shavkat Mirziyoyev had proposed a completely new system of working with citizens' Appeals in the state administration, since he was not yet elected president of the country. This is the virtual lobby of the Prime Minister. Later, the mechanism for working with citizens' Appeals, which received the name "virtual reception of the president" and systematically turned into "people's reception", was formed. Therefore, in accordance with the paragraph, we will focus our thoughts on the new changes that have begun in the activities of the Supreme Assembly, political parties, citizens' self-government bodies and other NNOs, in particular the subjects of public control institutions. Another aspect that should be noted is that the concept of "Social Thought", which was previously a tradition in consumption, gained prominence during the reign of President Shavkat Mirziyoyev and became the platform of "My opinion" [10].

If we pay attention, as we describe our analysis, we mean the work carried out in terms of periodicity, more than in terms of the periodicity, up to 2010 years. That is, we paid attention to the formation of a complete superstructure of the system. But it must also be said that the trend of development in the field has not been less than evolutionary in the same processes. In particular, the new stage scan also shows its shortcomings, showing the achievements of the previous period, we will try to dwell on this below.

It can be said without exaggeration that on July 12, 2017, the meeting of President Shavkat Mirziyoyev with the chambers of the Oliy Majlis, political parties and representatives of the ecological movement of Uzbekistan opened a new pole for further democratization of the country. In it, a critical look at the activities of the Parliament, political parties and local councils of the Noibi and the plans to be made in the future were determined. In particular, the head of State said: "Where does democracy begin – from Parliament. "Parliament is a school of democracy," we say. Therefore, our national parliament must become a school of true democracy. In this regard, you, respected deputies and senators should be an example for all. Really controversial, printsi pial disputes should first be here – on the pulpit of Parliament. It is only then that the true image and position of each political party, each party faction in parliament, is clearly manifested"[11].

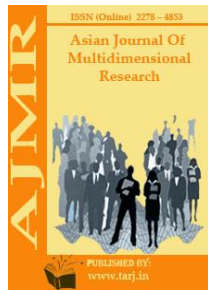
The president also points out that about political parties "any political party can co-exist with the Times and live as a political force only in the destiny that meets its acute demands" [12]. Another remarkable aspect was mentioned at the meeting that for the first time in the history of Uzbekistan deputies conduct their official pages in social networks. In addition, deputies and Senators went to the regions in the first ten days of each month and a system of working with appeals from the population was established.

It should be noted that before this historic meeting, a number of important legal documents were adopted on modernization of society, in particular on parliamentary control, public control and consumer rights.

Among these documents are "On measures for further improvement of the neighborhood Institute", "On increasing the effectiveness of the state policy on youth and supporting the activities of the Youth Union of Uzbekistan", "On measures for radical improvement of the system of working with appeals of individuals and legal entities", "On increasing the effectiveness of spiritual and educational work and raising the development of the", "On measures to increase the personal responsibility of the heads of the local executive authority and regional bodies of the Economic Commission in increasing the efficiency and effectiveness of the work carried out to ensure employment of the population" decrees and resolutions of the president of the Republic of Uzbekistan[13] can be brought.

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DIGITAL PROCESSING OF BIOMEDICAL SIGNALS IN HAAR'S PART-WAVELET MODELS

Khakimjon Nasridinovich Zaynidinov*; Jonibek Uktamovich Juraev**;
Asror Mahmadosstovich Boytemirov***

*Professor,
Doctor of Technical Sciences,
Tashkent University of Information Technologies named after Muhammad al-Khwarizmi,
UZBEKISTAN

**Doctoral Student,
Samarkand State University, UZBEKISTAN

***Assistant,
Karshi branch of Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, UZBEKISTAN

ABSTRACT

This article is devoted to the construction of Haar's fragmentary-polynomial wavelet models, which are important in the digital processing of electroencephalographic signals in biomedicine. These models were built by using Haar's piece-constant, piece-line, and piece-square wavelets. Haar's fragmentary-polynomial wavelet models have high accuracy in the digital processing of biomedical signals. The use of wavelet modifications for the analysis of electroencephalographic signals allows to expand the volume of useful data obtained during the digital processing of data recorded from patients during clinical or physiological studies. As an example in the study, the first experimental data of the biomedical electroencephalographic signal were obtained, and on the basis of this data, Haar's fragment-wavelet models were constructed and their errors were evaluated.

KEYWORDS: *Haar's Fractional Constant, Haar's Linear Wavelength, Haar's Quadratic Wavelength, Wavelet Modification, Digital Processing Error, Absolute Error, Scaling Function, Wavelet Function.*

INTRODUCTION

Today there are many available types of wavelets. The simplest of these wavelets is Haar's unbreakable wavelet. Haar's fragmentary wavelength is expressed in an iterative manner. The

main disadvantage of the Haar wavelet is the lack of an analytical view of the wavelet function and the increase in errors in the recovery of compression coefficients. It should also be noted that the advantage of which type of wavelet also depends on the analysis input signal [1,2,5], since the scaling function is interpreted differently depending on the type of wavelet.

In matters of image recognition from wavelets, during the processing and synthesis of various signals, such as speech, in the analysis of various images in nature (color of the cornea, radiography of the kidney, studying the surface properties of crystals and nanoobjects, satellite images of clouds or planetary surfaces, etc. may be used in the study of the properties of vortex derivatives and in other cases [14].

II. MAIN PART

Construction of Haar's fragmentary vault: Haar's orthogonal wavelets are widely used in solving practical problems. Haar's fragmentary wavelets attract the attention of experts for two reasons:

1. Reduce the number of coefficients required to approximate (with a given accuracy) the total number of binary segments.
2. Absence of "long" operations in the calculation of coefficients. Only add, zoom and edit operations are used.

The process of changing the signal wavelet is based on the use of two types of functions: wavelet function and scaling function, i.e. they are constructed by moving a single mother wavelet $\psi(t)$ along the signal in time b and changing a the time scale [3, 7, and 9]:

$$\psi_{ab}(t) = \frac{1}{\sqrt{|a|}} \psi\left(\frac{t-b}{a}\right), \quad (a, b) \in R, \quad \psi(t) \in L^2(R)$$

$$\varphi(t) = \begin{cases} \frac{1}{\sqrt{N}} 2^{p/2} & \text{if } \frac{q-1}{2^p} \leq x < \frac{q-1}{2^p} \\ -\frac{1}{\sqrt{N}} 2^{p/2} & \text{if } \frac{q-1}{2^p} \leq x < \frac{q}{2^p} \\ 0 & \text{if } x \in [0,1] \end{cases} \quad (1)$$

Here,

$$k = 0, \dots, N-1, \quad N = 2^n, \quad 0 \leq p \leq n-1, \quad 1 \leq q \leq 2^p \quad (p > 0)$$

$\varphi(t)$ -wavelet function

In digital signal processing, wavelet functions are used to distinguish the details and local properties of signals, and a scaling function is used to approximate signals.

V^0 -we define a set of invariant functions in all intervals, i.e. a set of linear vectors [4,9,10,11].

In this case, the following scaling function belongs to the set V^0 :

$$\phi(t) = \phi_{0,0}(t) = \begin{cases} 1, & 0 \leq t < 1 \\ 0, & \text{Otherwise} \end{cases} \quad (2)$$

$i = 0$ when scaling function

V^1 -collection $\left[0, \frac{1}{2}\right]$ and $\left[\frac{1}{2}, 1\right]$ is a set of functions that do not change in the interval, it

forms linear vectors. The scaling function belongs to the V^1 -set and is considered as its wavelet function [5,12,17,18]:

$$\phi_{1,0}(t) = \phi(2t) = \begin{cases} 1, & 0 \leq t < \frac{1}{2} \text{ and} \\ 0, & \text{Otherwise} \end{cases}$$

$$\phi_{1,1}(t) = \phi(2t - 1) = \begin{cases} 1, & \frac{1}{2} \leq t < 1 \\ 0, & \text{Otherwise} \end{cases} \quad (3)$$

$i = 1$ when scaling function

This function is $[0,1]$ in the range $\left[0, \frac{1}{2}\right]$ and $\left[\frac{1}{2}, 1\right]$ does not change even at intervals. So V^0

each element of the set V^1 -is also an element of the set, $V^0 \subset V^1$ the attitude is reasonable. V^2

we define the set in a similar way. V^2 - $\left[0, \frac{1}{4}\right]$, $\left[\frac{1}{4}, \frac{1}{2}\right]$, $\left[\frac{1}{2}, \frac{3}{4}\right]$, $\left[\frac{3}{4}, 1\right]$ a set of interval-

dependent functions. A set of similar V^n scaling features, i.e.

$$\phi_{n,j}(t) = \phi(2^n t - j), \quad j = 0, 1, \dots, 2^n - 1$$

$$0 \leq 2^n t - j < 1, \quad \frac{j}{2^n} \leq t < \frac{j+1}{2^n}$$

$$\phi_{n,j}(t) = \begin{cases} 1, & \frac{j}{2^n} \leq t < \frac{j+1}{2^n}, \quad j = 0, 1, \dots, 2^n - 1 \\ 0, & \text{Otherwise} \end{cases} \quad (4)$$

$$V^0 \subset V^1 \subset \dots \subset V^n \subset \dots$$

$i = n$ The scaling function, where, $0 \leq 2^n t - j < 1$, $\frac{j}{2^n} \leq t < \frac{j+1}{2^n}$ is the interval of change scaling functions, $\phi_{n,j}(t) V^n$ are scaling functions that contain a set of vectors that include a scalar product, which means that these sets make up the Euclidean space. In our case as a scalar product

$(f, g) = \int_0^1 f(t)g(t) dt$ we obtain the view that the coefficients of the C_n -scale functions are determined using this formula.

In that case $\phi_{n,j}(t) = \sqrt{2^n} \phi(2^n t - j)$, $j = 0, 1, \dots, 2^n - 1$

Using Figures (3) and (4), find the coefficients of the Haar wavelet:

$$C_n = \int_0^1 \phi_n(x) f(x) dx \quad (5)$$

The formula for finding the coefficients of the Haar wavelet.

$$f(x_i) \cong f_1(x_i) = \sum_{n=0}^{\infty} C_n \phi_n(x) \quad (6)$$

Construction of Haar's fragmentary wavelet: The search for ways to reduce the number of coefficients required for memory storage and improve "smoothness" performance requires a shift to higher levels of wavelets. The simplest of these are the Haar-line wavelets, they are formed as a result of the integration of the fragment- invariant wavelets of the Haar- wavelet.

The disadvantage of Haar's fragmentary wavelengths is the increase in errors when approaching the signal, i.e., the need to memorize several coefficients of the signal to ensure 0.1% accuracy [4,19,20].

In solving many practical problems, the capabilities of fragmentary wavelets are insufficient, however, the interpolation error of fragmentary wavelets is greater than the interpolation error of fragmentary wavelets, so it is advisable to switch to fragmentary wavelets.

An analysis of the available literature shows that Haar does not have an algorithm for determining the fractional wavelet coefficients, so this type of wavelet is not widely used.

Sequence of approximation of the linear Haar wavelet:

$$f(x) \cong \sum_{k=0}^{n-1} C_k h_{ain_k}(x) \quad (7)$$

The disadvantage of this C_k sequence is the lack of an algorithm for quick calculation of coefficients.

This defect can be remedied by applying a parabolic spline. If we take the second-order product of the parabolic spline, $f(x)$ the function is interpolated in the interval [0,1], and with the

change of steps at the points of the spline node, the function becomes fragment-invariant, and forms fragment-invariant orthogonal wavelets.

For example, using the Haar wavelet, we write the yield of the spline:

$$S_2''(x) \cong \sum_{k=0}^{n-1} C_k \text{har}_k(x) \quad (8)$$

According to the integration theorem:

$$S_2'(x) = 2^p \int_0^x S_2''(u) du = \sum_{k=0}^{n-1} C_k \text{hain}_k(x) + S_2'(0) \quad (8)$$

the coefficients of the orthogonal Haar wavelets of the second-order product of the parabolic spline, $\text{hain}(x)$ - were found to be the coefficients of the first-order yield of the spline with respect to the wavelets. The coefficient of the linear part of the sum $x=0$ at the point $S_2(x)$ is taken as the value of the first-order yield of the spline.

If a parabolic V-spline is taken as a spline function $y = f(x)$ The function can be expressed as a spline as follows:

$$f(x) \cong b_{-1}B_{-1}(x) + b_0B_0(x) + b_1B_1(x)$$

Here $f(x)$ -interpolated function, $B_i(x)$ -parabolic based spline, b_i -are coefficients, which are calculated as follows:

$$b_i = \frac{1}{8}(-f_{i-1} + 10f_i - f_{i+1}) \quad (9)$$

or the first-order yield of the function is represented by the first-order yield of the B-spline as follows:

$$f'(x) \cong b_{-1}B'_{-1}(x) + b_0B'_0(x) + b_1B'_1(x) \quad (10)$$

Construction of a square vault of Haar: By switching to a higher level of wavelets, further reduction of interpolation error is achieved. We use the second-order yield of the fragmentary wavelet of Haar [11,12,13].

An analysis of the available literature shows that Haar's algorithm for determining the fractional-quadratic wavelet coefficients also does not exist, so this type of wavelet is not widely used. We use parabolic splines to build a piece-square wavelet of Haar. One of the important features of parabolic splines is the continuity of its first and second order derivatives.

These features can be used in the development of a new algorithm for calculating the fractional-quadratic wavelet coefficients, which gives high efficiency in the processing of signals and functions with fragmentary-polynomial wavelets.

In that case $B_i(x)$ instead of the values of the functions, $[-1.5; -0.5]$ in the segment $B''(x)=1$, $[-0.5; 0.5]$ in the segment $B''(x)=-2$ and $[0.5; 1.5]$ in the segment $B''(x)=1$ secondary yield are used.

$$f''(x_i) \cong S_2''(x_i) = b_{-1}B_{-1}''(x) + b_0B_0''(x) + b_1B_1''(x) \quad (11)$$

Pay attention, (11) even if the analytical form of the original function in the model is unknown, a secondary yield can be found.

Here $f(x)$ -interpolated function, $B_i(x)$, $i=-1, 0, 1$ parabolic base spline, usually b_i -while the coefficients $f(x)$ function values or signal values. Its general appearance is calculated using formula (9).

(11) Haar's piece-square wavelet model. Using these modifications (6), (8), (11), we obtain the initial experimental data of the biomedical electroencephalographic signal and interpolate it in Haar's partial polynomial wavelets to evaluate its errors.

The result of interpolation in a Haarn-piece polynomial wavelet.

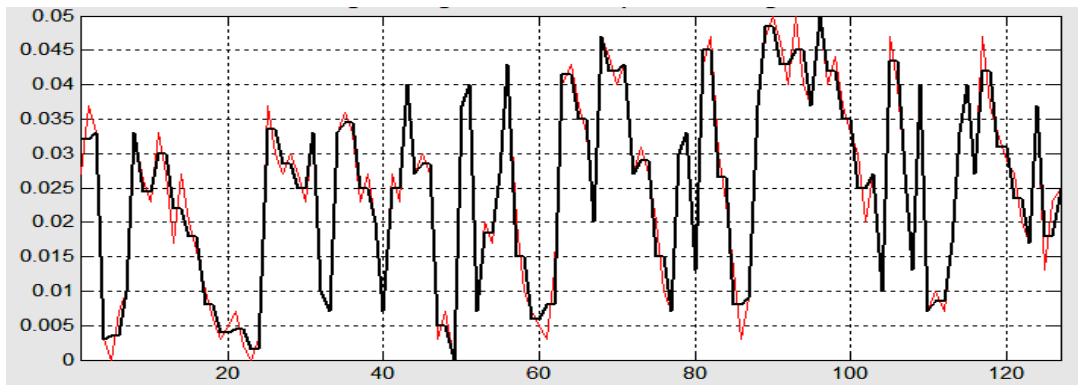


Figure 1. The result of interpolation of the electroencephalographic signal in Haar's fragmentary wavelet

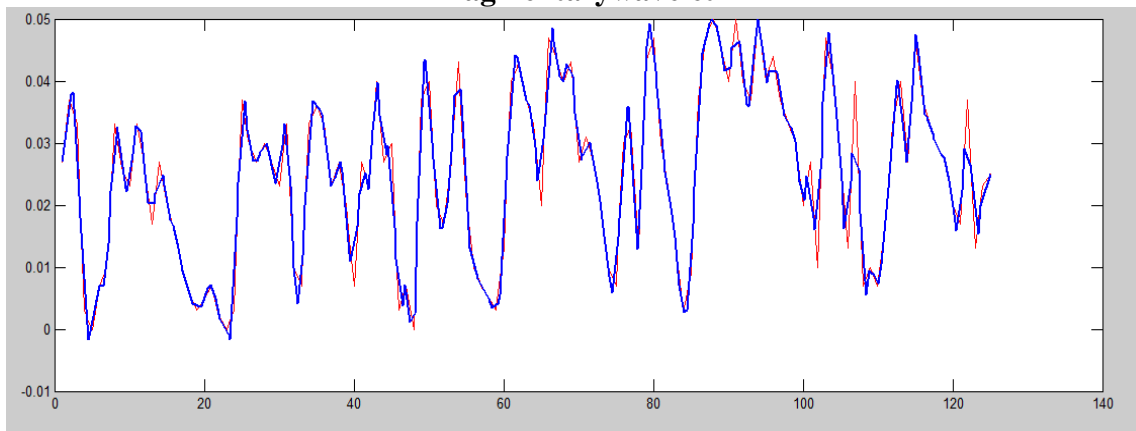


Figure 2. The result of interpolation of the electroencephalographic signal in Haar's fragmentary wavelet.

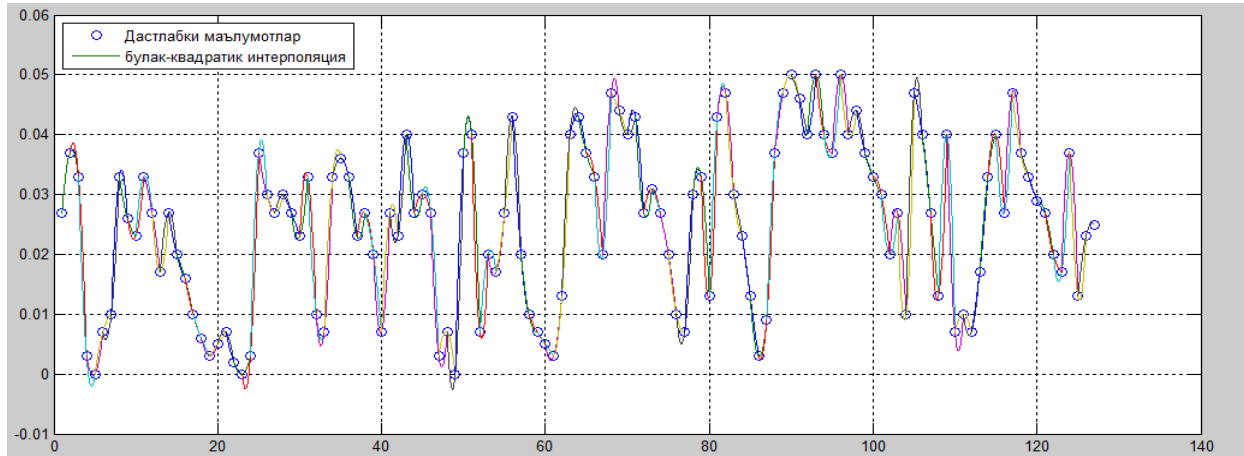


Figure 3. The result of interpolation of the electroencephalographic signal in Haar's fractional-square wavelet.

Error Evaluation: Here are the numerical processing errors in Haar's fragment-constant, fragment-line, and fragment-quadratic wavelets [15,16]. $[a,b]$ identified in $f(x)$ let a continuous function be given [2]. segment $a \leq x_0 < x_1 < \dots < x_i < \dots < x_n \leq b$

Nodes

$$h = x_{i+1} - x_i = \text{const}$$

h - the distance between nodes.

There are formulas for determining the methodological errors of interpolation for polynomials of different levels. For example, for zero-level polynomials (for Haar's fractional-constant functions), the formula for determining the interpolation error is given by:

$$|P(x) - f(x)| \leq \frac{1}{2} \max |f'(x)| h$$

The formula for determining the interpolation error for first-order polynomials (for Haar's fragmentary wavelets):

$$|P(x) - f(x)| \leq \frac{1}{8} \max |f''(x)| h^2$$

The formula for determining the interpolation error for second-order polynomials (for Haar's fractional-square wavelets):

$$|P(x) - f(x)| \leq \frac{\sqrt{3}}{27} \max |f^{(3)}(x)| h^3$$

Here is an estimate of the absolute and relative error of digital processing of a biomedical signal in Haar's polynomial wavelets..

$$\Delta_1 = \max_{a \leq x \leq b} |f(x_i) - f_1(x_i)| = 0,0185$$

$$\delta_1 = \frac{|f(x_i) - f_1(x_i)|}{f(x_i)} \cdot 100\% = 37\%$$

$$\Delta_2 = \max_{a \leq x \leq b} |f(x_i) - f_2(x_i)| = 0,0075$$

$$\delta_2 = \frac{|f(x_i) - f_2(x_i)|}{f(x_i)} \cdot 100\% = 15\%$$

$$\Delta_3 = \max_{a \leq x \leq b} |f(x_i) - f_3(x_i)| = 0,0029$$

$$\delta_3 = \frac{|f(x_i) - f_3(x_i)|}{f(x_i)} \cdot 100\% = 5,8\%$$

Δ_1 - The absolute error of Haar's fragmentary constant

Δ_2 - Absolute error of Haar's fractional line wavelet

Δ_3 - Absolute error of Haar's fractional quadratic wavelet

δ_1 - fraction is the relative error of the constant wavelet

δ_2 - the relative error of the fragment-line wavelet

δ_3 - The relative error of Haar's fractional-square wavelet

Table- 1

Relative error				
№	Signal	PC	PL	PS
1	Gastroentologic	41%	23,2%	9,2%
2	Electroencephalography	37%	15%	5,8%
3	Magnetic derivative	22,4%	9%	3,6%

Table- 2

Absolute error				
№	Сигнал	PC	PL	PS
1	Gastroentologic	0,0245	0,0813	0,0042
2	Electroencephalography	0,0185	0,0075	0,0029
3	Magnetic derivative	0,0127	0,0028	0,0014

CONCLUSION

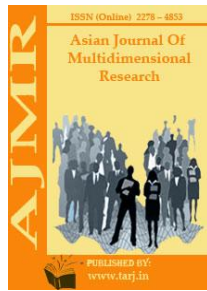
A model of digital processing of electroencephalographic signal was constructed in the partial-polynomial wavelets of Haar and its errors were evaluated. The analysis of the obtained results shows that in the evaluation of the electroencephalographic signal during the evaluation, the absolute error of digital processing in the fragmentary wavelet of Haar is 0.0185, the absolute error of digital processing in the fragmentary wavelet of Haar is 0.0075, , Was equal to 0029.As

a result, it was found that the absolute error of digital processing in Haar's fractional wavelet is smaller than the absolute error of digital processing in Haar's fractional and linear wavelets, suggesting that it is appropriate to use biomedical signals in digital processing in Haar's fractional-square wavelet.

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A SCIENTIFIC ANALYSIS OF THE FACTORS THAT REQUIRE A VICTIM TO COMMIT A CRIME

Kodirali Abdisalimovich Saitkulov*

* Senior Teacher,
 Doctor of Philosophy in Law (PhD),
 Department of "Crime Prevention",
 Ministry of Internal Affairs of the Republic of Uzbekistan Academy,
 UZBEKISTAN

ABSTRACT

Effective provision of victimological prevention of offenses in the article by the author; first and foremost, it is scientifically substantiated that the chain of causes and circumstances of a crime requires an investigation of the factors that lead to the victim. In his view, the antisocial behavior, lifestyle, and negative attitudes of certain categories of individuals directly affect the criminogenic situation in any place as criminogenic factors that require the offender to commit an offense in one situation and in another case to be a victim of the offense.

KEYWORDS: *Offense, Prevention, Crime, Victim, Object, Subject, Criminogenic Factor, Victimogenic Factor.*

INTRODUCTION

As a result of the rise of international crime, such as religious extremism, terrorism, human trafficking, drug trafficking, arms trafficking, which has become a global problem in the world, millions of citizens are suffering physically, mentally and materially. According to international experts, more than 3 million people worldwide are victims of human trafficking each year. 72% of the victims of this crime are women and young girls. In 2017, 464,000 people were intentionally killed or 6.1 victims per 100,000 people. The figure is 62 in Central America, 56.8 in South America and 13 in Africa. In Europe, one in five children is sexually abused.

In order to protect the individual from various aggressions, the world pays special attention to increasing the effectiveness of victim prevention, the development of new mechanisms for its organization. In this regard, in particular, the development of measures aimed at greater use of modern information technology, as well as the organization of cooperation between government agencies, public organizations and increase the activity of citizens, as well as the promotion of

methods and forms of protection from criminal aggression. scientific and practical research aimed at exit is of great importance.

THE MAIN FINDINGS AND RESULTS

In Uzbekistan, special attention is paid to improving the effectiveness of victim-prevention measures to ensure compliance with the law in the interests of the state and society, especially the protection of life, health, honor, dignity and property of citizens from various encroachments. In this regard, the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 provides for such urgent tasks as "... increase the effectiveness of crime control and crime prevention activities". Therefore, in this regard, the improvement of organizational and legal mechanisms of activity, the introduction of modern advanced methods and forms of work in the field, increasing the effectiveness of cooperation remains one of the most pressing issues.

Improving the effectiveness of victimological prevention of offenses is carried out, first of all, through a scientific study of the role of the victim in the chain of causes and conditions of the crime. As noted in the literature on criminology and victimology, antisocial behavior, lifestyle, and negative attitudes toward certain categories of individuals are criminogenic factors that require the offender to commit an offense in one situation [2, pp. 228, 38, 27-28, 23-24] and victimogenic factors [3, pp. 228, 217, 28,110, 220, 30] in another; it has a direct impact on the criminogenic situation anywhere.

Therefore, the theoretical support of victimological prevention of offenses requires, first of all, the study of victimogenic factors, as well as criminogenic factors that exist in various spheres of social life.

It is scientifically based on the fact that there are both subjective (manifested in human behavior) and objective (associated with the environment that forms the victim) factors of victimogenic nature, such as the presence of events, happenings and processes in any society that have criminogenic characteristics that require the person to commit offenses [4, pp.14-16, 264-268, 12-18] [5, pp. 44-54].

Studies show that the factors that indicate the likelihood of an individual being a victim of an offense and that require the victim to: Individual victim features such as a) dirt (15 percent); b) reliability (13 percent); c) without legal literacy (12 percent); g) simplicity (5 percent); d) negligence and indifference (10 percent); e) cowardice (1 percent); y) ignorance (5 percent); j) greed (7 percent); h) curiosity (14%); i) fraud (8 percent); k) disregard for people (4%); l) ignorance of protection (12 percent) can be added.

It should be noted that the study is scientifically based on the need for regular victimological preventive work with the category of individuals with these characteristics, given the high role of individual victim characteristics in the chain of causes of crime [6, pp. 53-54].

At the current stage of development of society, the objective factors that create the characteristics of a person who is likely to be a victim of delinquency and require victim: a) unhealthy environment (14%); b) unemployment (13 percent); c) injustice (5 percent); d) population stratification (2%); d) corruption and legal nihilism (16 percent); e) "popular culture" (8%); j) weakening of national values (4%); h) acceleration of the migration process (3%); i) distrust of public authorities (5 percent); k) inadequate victim protection and rehabilitation system (8%); l) public influence weakness (12 percent).

It should be noted that in addition to the fact that subjective and objective factors are mutually reinforcing, it should never be forgotten that they are causal and correlated with all events, happenings and processes in society, especially criminogenic. For example:

The presence of overconfidence, indifference and indifference in certain categories of people living in our country, as well as corruption and legal nihilism in public life, distrust of government agencies, has led to their mass suffering from Straus House (298 people lost 6.6 billion soums), AUTO 60 OY (19,344 people lost 47.7 billion soums), limited liability companies, as well as HUMAN (52 people lost 1.6 billion soums), "Korean and migration" (235 people lost 24.8 billion soums), "International job Organization" (61 people lost 2.6 billion soums) private employment agencies operating in our country. The analysis shows that about 20,000 victims suffered more than 90 billion soums in total.

In the course of the study, based on the above rules, the study of criminological and criminological aspects of the crimes committed allowed us to identify the factors that provoke and motivate the perpetrators of the crime.

According to the results of the survey conducted in the course of the research, the factors that cause the victim in the study of provocative and motivating behavior of victims in the commission of crimes are: (a) Alcohol abuse in intentional homicide (43%), physical weakness (12%), cowardice (1%), immorality (23%), negative relationship with the offender (10%), persistent violence (11%); (b) the victim's greed for wealth (48 per cent), physical weakness and loneliness (14 per cent), confidence (5 per cent), indifference (4 per cent), indifference to events (12 per cent), alcoholism or drug addiction (12 percent), dirt (5 percent); c) reliability (77%), indifference (1%), entrepreneurial risk (21%) of victims of fraud; (g) Victims of theft are accustomed to leaving their property open (22 per cent), do not follow recommendations to connect their homes to the security panel (27 per cent), are accustomed to leaving their vehicles unattended (29 per cent), prefer to show off their property and possessions (16 per cent), negligence (5 percent); (d) Weakness (42 per cent), immorality (30 per cent), reliability (13 per cent) and simplicity (15 per cent) of victims of rape; e) grievances of victims of intentional bodily injury (15%), shortcomings in upbringing (25%), insincerity in dealing with the offender (19%), humiliation of honor and dignity (10%), domestic violence causative agent (45 percent).

We can also see in the results of the analysis of materials on criminal cases considered by the courts that the victimizing factors are high in the chain of causes and conditions of thefts. When studying the factors that led to the commission of thefts in Kashkadarya region (480) in 2018, 70.5% of victims were negligent, 10.8% did not use the means of security sound equipment; 9.9 per cent were found to have left their home unattended for long periods of time, and 8.8 per cent were found to have failed to keep keys or entrust them to other persons.

In addition, a study of criminal assaults against a direct person found that only 25 percent of victims were determined to defend themselves, while the remaining 75 percent were passive. In such cases, the perpetrators also paid special attention to the subsequent behavior of the victims.

When asked why 11.9% of respondents were not immediately notified of the fraud by the relevant body, 11.9% of respondents said that they were always persuaded by the perpetrator, and 4.6% were more self-interested, 6.1 per cent voluntarily approached the fraudster, 6.4 per cent did not allow conscience, and 6.2 per cent wanted the case to be resolved, 2.3 per cent cited being threatened by a fraudster about losing their money if they applied somewhere, while 67.9 per cent cited other reasons.

Studies have shown that victim factors have a high impact on the commission of crimes against life and health in the domestic sphere, especially in the family [7, p. 19].

It is no exaggeration to say that one of the main tasks of crime prevention by law enforcement agencies is to identify and eliminate the causes of crime, with in-depth study and analysis of various problems that shape and further revitalize society. The positive solution of issues related to their timely detection and elimination depends on the effectiveness of victim-based crime prevention by law enforcement agencies.

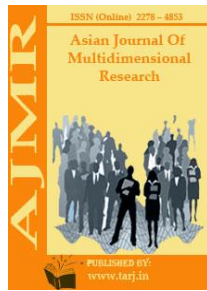
CONCLUSION

To conclude, it should be noted that from the point of view of theoretical and organizational support of victimological prevention of offenses: a) environmental relations at all levels; b) criminogenic and victimogenic factors; c) based on the results of the analysis of the activities of entities directly involved and involved in crime prevention, including victim prevention, in the study of the formation of characteristics that require a tendency to commit or suffer offenses as a result of their impact on the population.

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RIVER WATER TREATMENT LEARNING USING COAGULATION, FERROLITE, MANGANESE GREENSAND, AND RESIN

Doni Kristianto and Setyo Purwoto*

*Environmental Engineering,
University of PGRI Adi Buana Surabaya,
INDONESIA

Email id: doni.kristianto.asry@gmail.com

ABSTRACT

Alternative treatment of river water in Avur Wonorejo River (raw water) in reducing levels of Turbidity, Total Dissolved Solid (TDS), Hardness, Chloride (Cl), Iron (Fe), and high E.coli is a combination of coagulants, filtration, Ferrolite, Manganese Greensand, and resins. The purpose of this study was to determine the effect of Coagulation, Filtration, Ferrolite, Manganese Greensand, and Resin treatments and the magnitude of the effect of variations in the addition of the coagulant Sucolite SP 210 (16.4 ppm, 21.4 ppm, and 26.4 ppm) on the decrease in Turbidity, TDS, Hardness, Cl, Fe, and E.coli in raw water. The data collection method was carried out for 1 day with 3 times of time replication (07.00; 08.00; and 09.00). The results showed the magnitude of the effect of the treatment, there was a decrease in the maximum concentration at the time of taking raw water at 09.00 with the addition of the coagulant Sucolite SP 210 of 26.4 ppm, with a decrease in the concentration of TDS by 62%, Turbidity 96%, Hardness 47%, Cl 35 %, Fe 87%, and E.coli 89%. However, the E.coli content decreased by a maximum of 790 CFU/100 mL (89%) because the E.coli content at the inlet was very high at 886 CFU/100 mL, so the decrease in E.coli still could not meet the quality standard.

KEYWORDS: *Learning, River Water Treatment, Coagulation, Filtration, Ion Exchanger.*

INTRODUCTION

Humans are often faced with difficult situations where freshwater resources are very limited and on the other hand, there is an increasing need (Akhsan et al., 2011). For people who live in coastal areas and small islands, freshwater is a very important source of water, while most of the coastal areas are brackish water (Ariyanto et al., 2014). Not to mention if there is a long dry season, clean water will be difficult to find. The source of brackish water is so abundant that there are many undeveloped settlements in coastal areas. Several parties have attempted to

process brackish water into freshwater, starting by using simple technologies such as distillation, filtration, and ion exchange. So, people who live in coastal areas can get decent clean water (Abdillah, 2021).

If you look at the earth's surface which is mostly covered by water, it seems as if the water sources in this world are very abundant. Now, 97.5% of the water on earth is seawater and brackish water that cannot be drunk, and the remaining 2.5% is fresh water (Pidwirny, 2007). Of the remaining 2.5% which is a source of water that can be used by humans, only 0.003%, because most of the fresh water on earth is stored in the form of ice and glaciers or snow deposits. Clean water reserves are distributed unequally on the earth's surface (Munge, 2010). And from the results of the initial laboratory test, it was found that the condition of the river water sampled at 07.00 Turbidity 36 NTU, Total Dissolved Solid (TDS) 1120 mg/L, Hardness 680 mg/L CaCO₃, Cl 25.8 mg/L, Fe 1, 8 mg/L, and E.coli 1100 CFU/100mL.

Based on the description above, it can be seen that the river water sample exceeds the quality standard. If river water is used as raw water for sanitation hygiene needs, it is necessary to have technology to overcome this so that raw water can meet quality standards in accordance with the Minister of Health Regulation Number 32 of 2017 Concerning Environmental Health Quality Standards and Health Requirements for Sanitary Hygiene, Solus/Aqua Swimming Pools, and Public Baths. With this limitation, residents are forced to consume water that is very cloudy and far from healthy, so that water treatment can be carried out as a lesson for environmental activists or lovers while increasing human resources in terms of applying appropriate technology. Filtration studies can be in the form of a combination of coagulation, absorption, and ion exchange as a treatment (Purwoto et al., 2017).

The application of the technology that researchers offer as an effort to overcome the clean water crisis for the community uses Appropriate Technology (TTG) in the form of water treatment with coagulation, filtration, and ion exchange treatments. Sucolite SP 210 is a clear liquid that functions as a sedimentation and purifier. Then, filtration is the process of separating solids or colloids with liquids using Ferrolite and Manganese Greensand. Furthermore, chemical synthetic resins with certain organic functional groups that can function as ion exchangers use cation resins and anion resins.

RESEARCH METHODS

This research is experimental, experimental research is a research method that is used to find the effect of certain treatments on others under controlled conditions (Sugiyono, 2008). This study aims to examine the effect of decreasing TDS, Turbidity, Hardness, Chloride, Fe, and E.coli using the coagulant Sucolite 210 SP (16.4 ppm, 21.4 ppm, and 26.4 ppm), Ferrolite, Manganese Greensand, Anion Resin, and Cation Resin. Sequentially the processing stages are presented in full in **Figure 1**.

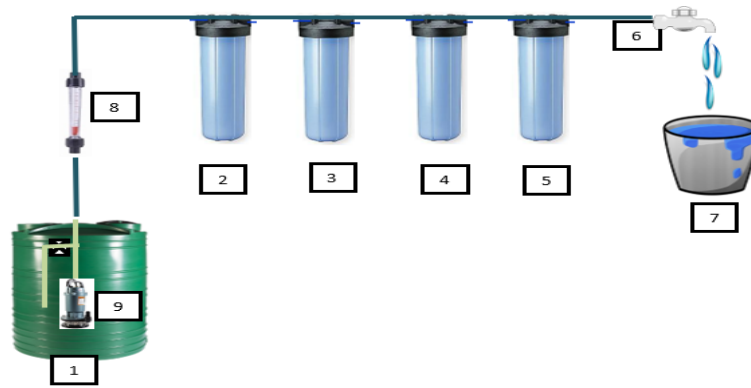


Fig. 1: Technology of Coagulation, Filtration, and Ion Exchanger

Processing Flow

(1) The river water sample is put into a 250 L water reservoir. (2) In the reservoir, the river water is mixed with Sucolite SP 210 coagulant with variations of 16.4 ppm, 21.4 ppm, and 26.4 ppm for 5 minutes so that the flocculation process occurs. and coagulation. (3) Then, the raw water is pumped using a submersible pump with a flow by-pass circuit using a flow meter (to regulate the water flow) to flow to the Filter Housing. (4) There are 4 Housing Filters with different media in sequence, namely Housing Filters with Ferrolite, Manganese Greensand, Anion Resin, and Cation Resin media. (5) The outlet results from processed river water are put into the holding tank, and then laboratory tests will be carried out.

In practice, the treatment is adjusted to the conditions of the reactor or processing installation with the treatment stage using the addition of a coagulant Sucolite SP 210. Then, filtration is carried out using filter housing with Ferrolite, Manganese Greensand, Anion Resin, and Cation Resin media. The complete processing implementation process is presented in **Figure 2**.



Fig. 2: Installation of Coagulation, Ferrolite, Manganese Greensand, and Resin

RESULTS AND DISCUSSION

As initial data, laboratory tests were carried out on raw water (Surabaya River Avur Wonorejo water) with physical, chemical, and biological parameters to determine whether these parameters meet the quality standards by the Minister of Health Regulation Number 32 of 2017. From the

results, the initial examination of the parameters of TDS, Turbidity, Hardness, Cl, Fe, and *E.coli* in Wonorejo River water in Surabaya is presented in full in **Table 1**.

TABLE 1: INITIAL CONCENTRATION TEST RESULTS OF RAW WATER

Parameter	Unit	Concentration	Quality Standards
TDS	mg/L	1120	1000
Turbidity	NTU	36	25
Chloride (Cl)	mg/L	25.8	-
Iron (Fe)	mg/L	1.8	1
Hardness	mg/L	560	500
<i>E.coli</i>	CFU/100 mL	1100	0

Source: Surabaya City Regional Health Laboratory

Total Dissolved Solid (TDS) Concentration After Treatment

The TDS concentration in the initial test showed results exceeding the quality standard, then in this study TDS decreased after treatment. The complete decrease in TDS concentration is presented in **Table 2**.

TABLE 2: CONCENTRATION OF TDS AFTER TREATMENT

Time	Inlet	Quality Standards	Unit	Added Sucolite SP 210 (ppm)		
				16.4	21.4	26.4
07.00	1120	1000	mg/L	873.60	787.20	758.00
08.00	1084		mg/L	843.12	651.31	559.73
09.00	1040		mg/L	792.49	598.18	399.11

Source: Surabaya City Regional Health Laboratory

Based on Table 2, it can be seen that the TDS concentration decreased in the sample at 09.00. This indicates that the time of taking raw water also affects the performance of the treatment series. This shows that the use of a series of treatments is quite influential in reducing the TDS content in the river water of Kali Avur Wonorejo. In this application, an ion exchange resin is used to replace the magnesium and calcium ions found in hard water with sodium ions. When resins are fresh, they contain sodium ions at their active sites. On contact with a solution containing magnesium and calcium ions (with low concentrations of sodium ions), magnesium and calcium ions preferentially migrate out of solution to active sites on the resin, being replaced in solution by sodium ions. This process reaches equilibrium with lower concentrations of magnesium and calcium ions in the solution than before.

This is supported by the results of research conducted by Purwoto et al. (2021) that groundwater treatment using micro-filtration treatment (Sediment Polypropylene), Ferrolite, Manganese Greensand, and Resin was able to reduce the TDS concentration by 152 mg/L. Based on Table 2, the decrease in TDS concentration after treatment can be presented in the form of a bar graph presented in **Figure 3**.

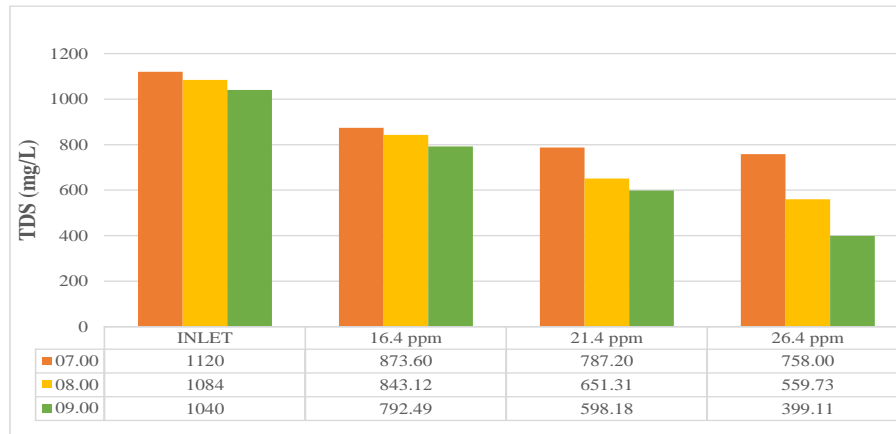


Fig. 3: Decrease in TDS Concentration After Treatment

Hardness Concentration After Treatment

The results of the initial test of hardness concentration exceeded the quality standard, but the concentration of hardness decreased after treatment. The complete decrease in the concentration of hardness is presented in **Table 3**.

TABLE 3: HARDNESS CONCENTRATION AFTER TREATMENT

Time	Inlet	Quality Standards	Unit	Added Sucolite SP 210 (ppm)		
				16.4	21.4	26.4
07.00	624	500	mg/L	522.42	491.44	475.44
08.00	586		mg/L	490.60	482.23	473.02
09.00	564		mg/L	472.19	385.26	301.26

Source: Surabaya City Regional Health Laboratory

Based on **Table 3**, the concentration of hardness shows that the effectiveness of reducing the concentration of water hardness in the Avur Wonorejo river is strongly influenced by the presence of Cation and Anion Resin media filter housings in the Coagulants Treatment series (Sucolite 210 SP), Filtration, Ferrolite, Manganese Greensand, and Resin. The function of Cation Resin in the water filter is to reduce the content of lime (CaCO_3), Magnesium (Mg), Calcium (Ca) in water, be it well water, mountain water, PDAM water, etc. commonly used for softener (softener) to water. The function of cation resin is to remove CaCO_3 , Mg, and Ca content in drinking water or groundwater. Cation resin can be used as a softener for water with a high hardness level, water with high hardness contains a lot of CaCO_3 , Mg, and Ca (Purwoto et al., 2019).

This is supported by the results of research conducted by Sutrisno et al. (2020) that groundwater treatment using adsorption, filtration, and Ion Exchanger treatments sequentially using activated carbon, Manganese Greensand, and silica sand were able to remove 296.27 mg/L (39.37%). Based on **Table 3**, the decrease in hardness concentration after treatment can be presented in the form of a bar graph presented in **Figure 4**.

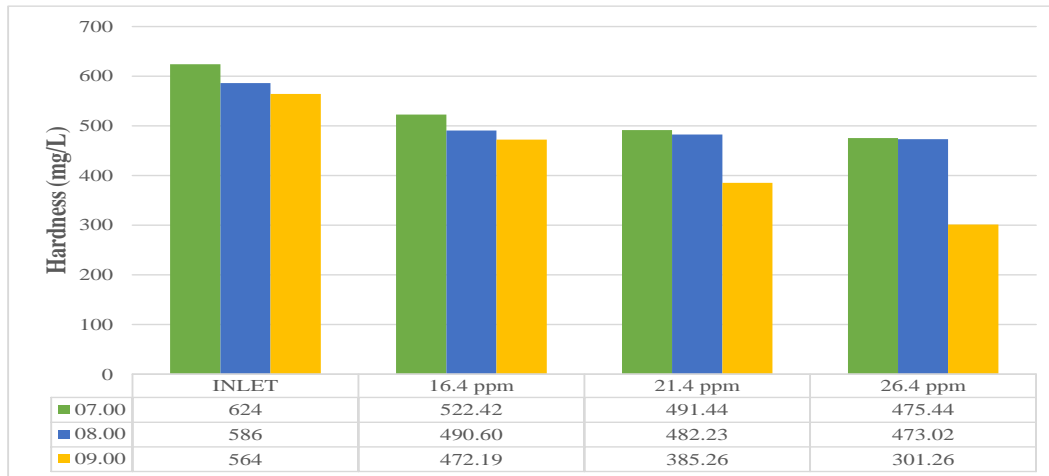


Fig. 4: Decrease in Hardness Concentration After Treatment

***E.coli* Content After Treatment**

The results of the initial test of the *E.coli* content exceeded the quality standard, but the *E.coli* content decreased after treatment. The complete decrease in *E.coli* content is presented in **Table 4**.

TABLE 4: E.COLI CONTENT AFTER TREATMENT

Time	Inlet	Quality Standards	Unit	Added Sucolite SP 210 (ppm)		
				16.4	21.4	26.4
07.00	984	0	CFU/100mL	374	317	309
08.00	940		CFU/100mL	373	311	270
09.00	886		CFU/100mL	351	241	96

Source: Surabaya City Regional Health Laboratory

Based on **Table 4**, the *E.coli* content with the addition of 16.4 ppm Sucolite SP 210 showed a decrease of 610 CFU/100 mL at 07.00, 667 CFU/100 mL at 08.00, and 675 CFU/100 mL at 09.00. The addition of 21.4 ppm of Sucolite SP 210 coagulant showed a decrease from the inlet concentration of 567 CFU/100 mL at 07.00, of 629 CFU/100 mL at 08.00, and 670 CFU/100 mL at 09.00. And with the addition of 26.4 ppm, Sucolite SP 210 coagulant showed a decrease from the inlet concentration of 535 CFU/100 mL at 07.00, by 645 CFU/100 mL at 08.00, and 790 CFU/100 mL at 09.00.

With a series of treatments Coagulants (Sucolite 210 SP), Filtration, Ferrolite, Manganese Greensand, Resin, and *E.coli* the results of this study decreased to 89%, because *E.coli* could be absorbed in each of these housings. Ferrolite can be used as a pollutant remover and can bind *E.coli* bacteria. Reducing *E.coli* content can use filtration with Manganese Greensand, Ferrolite, Resin, RO, and UV Sterilizer (Purwoto et al., 2020). This is by research conducted by Setiawan et al. (2019) that, groundwater treatment using Cation Resin, Anion Resin, Zeolite, and UV light treatment was able to remove *E.coli* with a residence time of 30 minutes of 7,040 MPN/100mL

(99.2%). Based on **Table 4**, the decrease in *E.coli* content after treatment can be presented in the form of a bar graph presented in **Figure 5**.

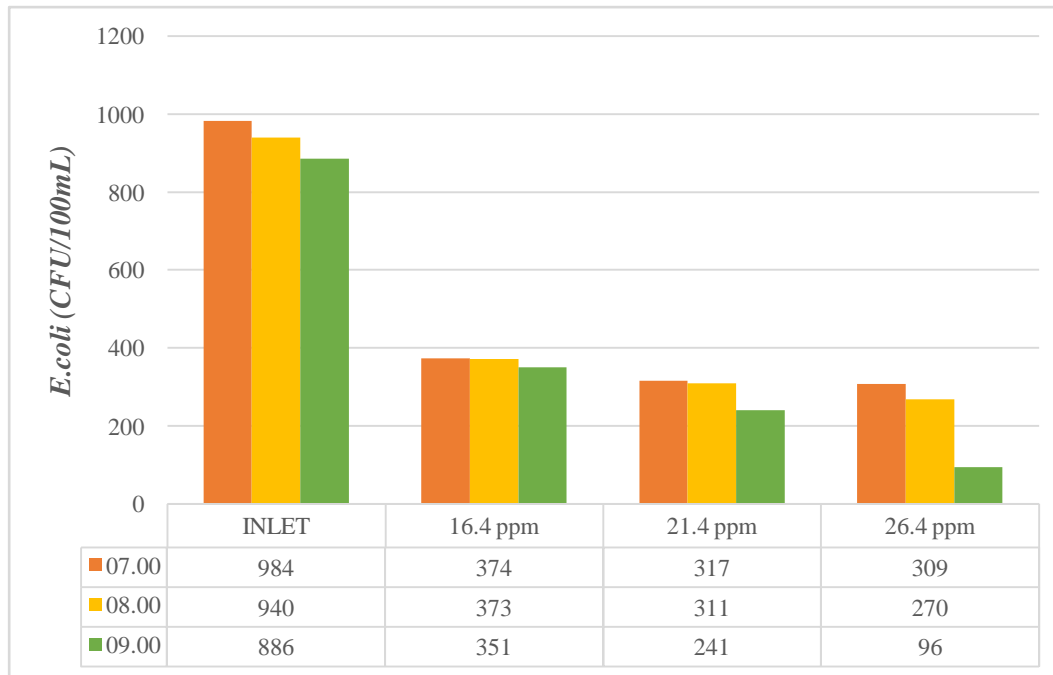


Fig. 5: Decrease in *E.coli* Content After Treatment

Turbidity Concentration After Treatment

The initial test results of the turbidity concentration exceeded the quality standard, but the turbidity concentration decreased after treatment. The complete decrease in turbidity concentration is presented in **Table 5**.

TABLE 5. CONCENTRATION OF TURBIDITY AFTER TREATMENT

Time	Inlet	Quality Standards	Unit	Added Sucolite SP 210 (ppm)		
				16.4	21.4	26.4
07.00	36.7	25	NTU	4.99	3.79	3.58
08.00	36		NTU	3.24	2.68	1.74
09.00	34.8		NTU	1.80	1.58	1.48

Source: Surabaya City Regional Health Laboratory

Based on **Table 5**, the turbidity concentration shows the effectiveness of reducing it, from these results it can be seen that in this study with all treatment models it was possible to remove the turbidity parameter concentration so that it could meet the specified quality standards. Adding coagulant at the beginning of the treatment can also reduce the performance of the filter housing in the next treatment because the addition of Sucolite SP 210 coagulant can form a floc core so that the water flowing into the treatment looks clearer (Purwoto et al., 2019). The high iron content in the water causes the water to turn yellow and even red, cloudy, and has a pungent

smell (iron smell). This ferrolite can be used for water filtration media for Regional Drinking Water Companies or boreholes (Purwoto et al., 2016).

This is also supported by the results of research conducted by Purwoto et al. (2018) that Coagulation, Filtration, Ferrolite, Manganese Greensand, and Resin treatments in raw water were able to reduce Turbidity 6,649.65 NTU. Based on **Table 5**, the decrease in turbidity concentration after treatment can be presented in the form of a bar graph presented in **Figure 6**.

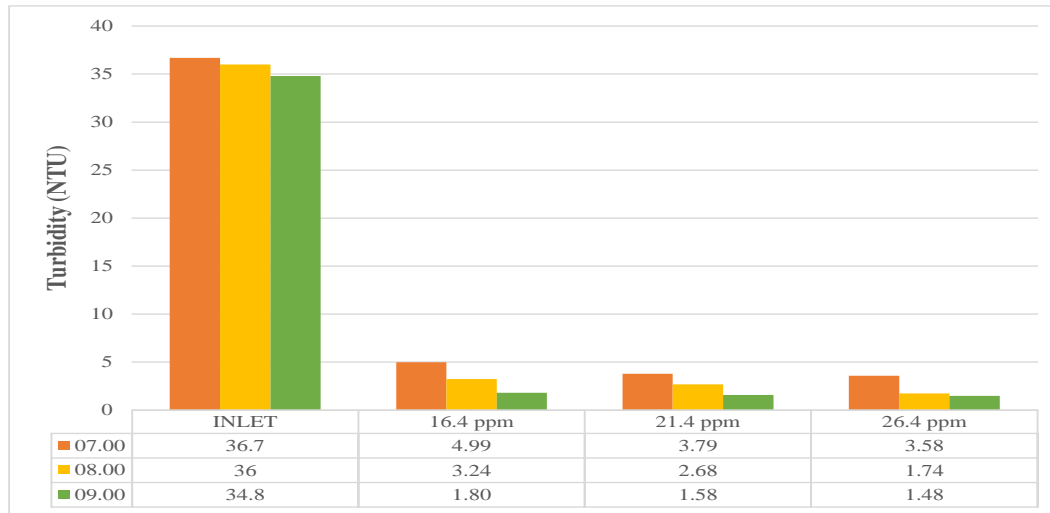


Fig. 6: Decrease in Turbidity Concentration After Treatment

Chloride (Cl) Concentration After Treatment

In research that has been carried out with a span of 3 (three) different times and with treatment and variation of the addition of coagulant Sucolite SP 210 the concentration of Cl⁻ decreased after treatment. The complete decrease in turbidity concentration is presented in **Table 6**.

TABLE 6: CL CONCENTRATION AFTER TREATMENT

Time	Inlet	Quality Standards	Unit	Added Sucolite SP 210 (ppm)		
				16.4	21.4	26.4
07.00	24.6	-	mg/L	23.02	20.69	18.32
08.00	24.6		mg/L	21.57	19.71	17.64
09.00	22.4		mg/L	19.91	17.34	14.51

Source: Surabaya City Regional Health Laboratory

Based on Table 6, the concentration of Cl⁻ with the addition of 16.4 ppm Sucolite SP 210 showed a decrease of 1.58 mg/L at 07.00, 3.03 mg/L at 08.00, and 2.49 mg/L at 09.00 from the inlet concentration. The addition of 21.4 ppm of Sucolite SP 210 coagulant showed a decrease in the inlet concentration of 3.91 mg/L at 07.00, 4.89 mg/L at 08.00, and 5.06 mg/L at 09.00. And with the addition of 26.4 ppm, Sucolite SP 210 coagulant showed a decrease from the inlet concentration of 6.28 mg/L at 07.00, 6.96 mg/L at 08.00, and 7.89 mg/L at 09.00.

This is also supported by the results of research conducted by Nurhayati et al., (2014) that, brackish water treatment using Reverse Osmosis (RO) Membrane, Coagulation, and Ion Exchange can reduce Cl concentration by 796 mg/L. The decrease in the concentration of Cl⁻ can be done by adsorption using Anion Resin, so the series of treatments in this study is very suitable for treating river water in Avur Wonorejo River in reducing the concentration of Cl. Based on **Table 6**, the decrease in turbidity concentration after treatment can be presented in the form of a bar graph presented in **Figure 7**.

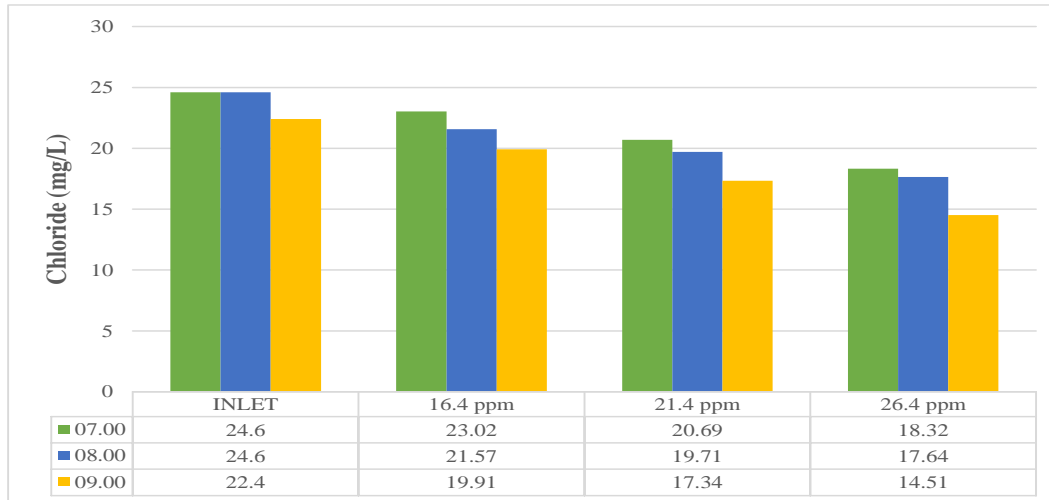


Fig. 7: Decrease in Cl Concentration After Treatment

Concentration of Iron (Fe) After Treatment

In the study the concentration of Fe decreased in each treatment, this result can be seen from the initial concentration (inlet) of the reactor which exceeds the quality standard. After, the treatment has decreased so that it can meet the specified quality standards. The complete decrease in turbidity concentration is presented in **Table 7**.

TABEL 7: CONCENTRATION OF IRON (FE) AFTER TREATMENT

Time	Inlet	Quality Standards	Unit	Added Sucolite SP 210 (ppm)		
				16.4	21.4	26.4
07.00	1.8	1.0	mg/L	0.33	0.30	0.26
08.00	1.6		mg/L	0.39	0.23	0.21
09.00	1.6		mg/L	0.29	0.25	0.21

Source: Surabaya City Regional Health Laboratory

Based on Table 7 the concentration of Fe at 07.00 with the addition of 16.4 ppm Sucolite SP 210 coagulant showed a decrease of 1.47 mg/L from the Inlet concentration, with the addition of 21.4 ppm Sucolite SP 210 coagulant showed a decrease of 1.50 mg/L from Inlet concentration and with the addition of 26.4 ppm Sucolite SP 210 coagulant showed a decrease of 1.54 mg/L from the Inlet Concentration. At 08.00 with the addition of 16.4 ppm, Sucolite SP 210 coagulant showed a decrease of 1.21 mg/L from the Inlet concentration, with the addition of 21.4 ppm Sucolite SP 210 coagulant showed a decrease of 1.37 mg/L from the Inlet concentration and with

the addition of coagulant Sucolite SP 210 as much as 26.4 ppm showed a decrease of 1.39 mg/L from the Fe concentration at the Inlet. At 09.00 with the addition of 16.4 ppm, Sucolite SP 210 coagulant showed a decrease of 1.31 mg/L from the Inlet concentration with the addition of 21.4 ppm Sucolite SP 210 coagulant showed a decrease of 1.35 mg/L from the Inlet concentration and with the addition of Sucolite SP 210 coagulant as much as 26.4 ppm showed a decrease of 1.39 mg/L.

This is also supported by the results of research conducted by Purwoto et al. (2018) that Coagulation, Filtration, Ferrolite, Manganese Greensand, and Resin treatments in raw water were able to reduce Fe by 0.2 mg/L (99.78%). This study also shows that there is an effect of adding the coagulant Sucolite SP 210 to the Coagulation, Filtration, Ferrolite, Manganese Greensand, and Resin treatment series. Based on **Table 7**, the decrease in Fe concentration after treatment can be presented in the form of a bar graph presented in **Figure 8**.

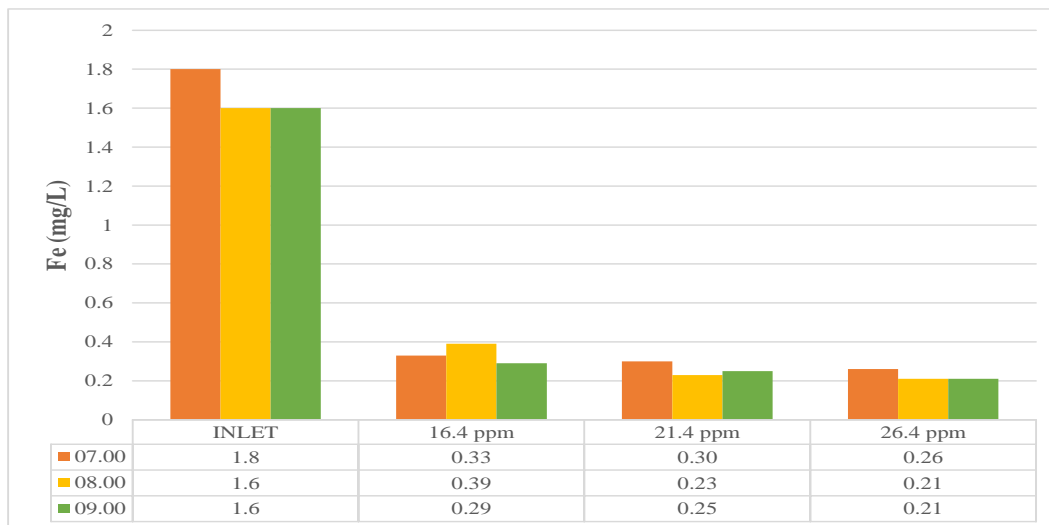


Fig. 8: Decrease in Fe Concentration After Treatment

CONCLUSION

Treatment with the addition of Coagulant Sucolite SP 210 with a dose variation of 26.4 ppm, Filtration, Ferrolite, Manganese Greensand, and Resin with standard water collection time at 09.00 can reduce the concentration of TDS, Turbidity, Hardness, Cl, Fe, and *E.coli* in Wonorejo river water Surabaya optimally. The decrease in TDS was 640.89 mg/L, Turbidity 33.32 NTU, Hardness 262.74 mg/L, Cl 7.89 mg/L, Fe 1.39 mg/L, and *E.coli* 790 CFU/100 mL. Using this treatment the parameters of TDS, Turbidity, Hardness, Cl, and Fe have met the quality standards. However, the *E.coli* content only decreased by a maximum of 790 CFU/100 mL because the *E.coli* content at the inlet was very high at 886 CFU/100 mL, so the decrease in *E.coli* still could not meet the specified quality standards. The results of the study indicate that Water Treatment Plants with Coagulation Treatment, Filtration, Ferrolite, Manganese Greensand, and Resin are Appropriate Technologies that can be utilized by coastal communities to meet their needs for clean water.

ACKNOWLEDGEMENTS

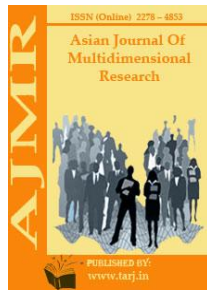
The author would like to thank Environmental Engineering Laboratory, Faculty of Engineering, Universitas PGRI Adi Buana Surabaya, Indonesia, which has facilitated this research.

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HEALING OF POMEGRANATE AND PROTECTING IT FROM MAJOR PESTS

Mirzaeva S. A*; Tursunov J. Kh; Juraeva Kh*****

*Associate Professor,
Candidate of Agricultural Sciences,

**Master's Student,

***Student,

Andijan Institute of Agriculture and Agricultural Technologies,
UZBEKISTAN

ABSTRACT

*This paper presents the results of experiments to test an effective insecticide against the pomegranate Comstock worm (*Pseudococcus comstocki* Kuw). The experiment was conducted in a young anorak and was performed on July 8 using a motorized suspension sprayer. In each variant, 6 bushes of wood were selected. Five drugs were studied in the experiments: Bagira-N, Camelot, Imidor, and Endjeo (all 0.2 l / ha) and Tsiraks - 0.3 l / ha. As a result of our studies, TsyraX from synthetic pyrethroids has shown satisfactory efficacy compared to others.*

KEYWORDS: *Comstock Worm, Pomegranate, Yield, Damage, Fruit, Bagira-N, Camelot, Imidor, Endjeo, Tsiraks.*

INTRODUCTION

Pomegranate is a medicinal plant, and getting a high and quality crop from it is a guarantee of health.

Horticulture plays an important role in meeting the food needs of the population and increasing the economic potential of the country. It is known that the Republic has fertile soil, favorable weather conditions and irrigation conditions for the development of horticulture. Increasing productivity, one of the important factors for improving product quality, is the regulation of pest and disease control work.

THE MAIN FINDINGS AND RESULTS

Pomegranate bush is native to Azerbaijan, Iran and Dagestan, and is grown mainly in the Central Asian republics of Azerbaijan, Crimea, Sochi, South Kazakhstan, and Dagestan.

Pomegranates in Uzbekistan include “White Pomegranate”, “Bitter Pomegranate”, “Red Pomegranate”, “Red Poultry”, “Kava Donya”, “Sweet”, “Bedona”, “Blue Pomegranate”, “Ulfi”, “Balamyursal”, “Vanderful”, “Glyuleysharozovaya”, “Kazakh pomegranate”, “Shartuzskiy”, “Tuyatish”, “August” (R.O.Oripov, N.Kh.Khalilov. 2007).

The vegetative growth period of pomegranate is 180-225 days. The mass flowering period of pomegranate lasts from June 15 to July 20. The branches begin to bear full fruit in 6–7 years after planting.

The fruit of pomegranate is 6-12 cells, weighs 250-800 g, the fruit is very serdon 300-1500 pieces. The fruits are usually born at the ends of the branches, cracking if cut too late. An average of 25-30 kg of pomegranate is harvested from one bush. It ripens in October, it is better to cut.

The fruit contains 8-21% sugar; 0.5-5% acids; Contains 6 mg of vitamin C.

It is divided into 3 groups depending on the acidity of the juice.

- 1) Sweet if it contains up to 0.9% acid
- 2) Bitter-sweet if 0.9-1.8% acid,
- 3) If it is more than 1.8% acid, it is called bitter pomegranate.

Pomegranate is important for human health and has high healing properties. Decoction of fruits, peel and roots are widely used in medicine in the treatment of gastrointestinal, cardiovascular, angina, bronchial asthma, arteriosclerosis, epilepsy and other diseases. Pomegranate juice whets the appetite.

Pomegranate peel is rich in tannins and dyes, so it is used in the manufacture of dyes and inks for dyeing fabrics, yarn, fabrics. Light and dark red dyes are made from the flowers and leaves. Citric acid is obtained from wild pomegranate. Pomegranate is also used in confectionery.

One of the main pests of pomegranate is the Comstock worm (*Pseudococcuscomstoci*Kuw) - a common insect belonging to the family of coccidia of the genus *Pseudococcus*, the coccidia - the subfamily Sossinea. It can be found in almost all fruit and ornamental trees, shrubs, and some herbaceous plants (even in cotton near mulberry rows). Pomegranates, apples, pears, peaches, as well as mulberries from fruit trees are severely damaged. (Nabiev U.Y. 1991)

Males and females differ sharply in appearance. The female is flat-shaped, wingless, with little movement; the male has 1 pair of wings, motile, reddish-brown in color, 1-1.5 mm long, with 10 joints.

The length of the female is 3-4 mm to 5-6 mm. The body is white waxy, covered with sawdust, so it looks white. There are 17 pairs of tumors at the edges of the body. The last 2 of these come to half of the body. The length of the egg is 0.3 mm, oval in shape, narrowed on one side. The color is yellow-orange, covered with a thin white guard. The larvae come in 0.45 mm at the first age, oval in shape; it quickly turns into white dust, has two tails, no growths next to it.

The Comstock worm cannot move and move far. It can be moved from place to place mainly through various inactive ways: on seedlings and fruits, through water currents, agricultural equipment, and clothing [KhojaevSh.T. 2014].

After the age of three, the Comstock worm becomes a mature breed and after 10-30 days begins to lay eggs. The number of eggs laid by each breed is greatest in the first generation (250-650). In Uzbekistan, the Comstock worm develops by giving 3-4 joints per season [Mirzaeva et al. 2017].

Comstock worms overwinter in different places: under trees, under grape skins, around the roots, in egg-shaped cracks in the walls. When the female lays an egg, she removes the waxy white pair and places it inside. The remaining forms (larvae, mature offspring) die during the winter. In winter, most of the eggs also die. In the spring (March-April), the larvae hatch from the eggs and move around the trunk, and when they choose a comfortable place, they begin to suck it.



Figure 1 External structure of Comstock worm (*Pseudococcus comstocki* Kuw)

Comstock worm (*Pseudococcus comstocki* Kuw) can infect more than 300 species of cultivated and wild plants. It damages all parts of the plant (fruit, even the root). The worms usually feed along the veins on the back of the leaf. Due to the damage of the worm, the leaves of the plant turn yellow and dry, the twigs become crooked, swells and cracks form on the trunk, roots and branches. Such a tree is weakened and more quickly damaged by secondary (bark) pests.

Fruit quality deteriorates and tree yield decreases by 30-35%. Comstock worms also cause significant damage to pomegranates.

№	Options	Drug consumption, l / ha	The number of comstockworms before the use of the tool is 1 flower / piece	Efficiency, in%, days					
				3		7		14	
				S	±m	S	±m	S	±m
1.	Bagira-N, 20% s.e.k.	0,2	21,8	92,5	3,1	94,5	0,9	85,6	5,1
2.	Imidor, 20% s.e.k.	0,2	19,4	95,1	2,8	95,9	2,2	93,2	3,2
3.	Camelot, 20% n.kuk.	0,2	33,1	91,1	4,2	94,2	3,0	90,1	3,7
4.	Endjeo, 24.7% sus.k.	0,2	27,6	94,7	3,5	97,1	0,9	87,0	3,6
5.	Tsiraks, 25% e.k.	0,3	25,5	75,2	4,9	90,3	3,7	89,0	4,2
6.	Control (without protection)	-	33,3	-	-	-	-	-	-



Figure 2 Damage of Comstock worm (*Pseudococcus comstocki* Kuw)

RESULTS AND DISCUSSIONS

We conducted experiments to test an effective insecticide against *Pseudococcus comstocki* Kuw. One of such experiments was conducted on the farm of Komolov Oltin Dalas, Izbaskan district, Andijan region (Table 1).

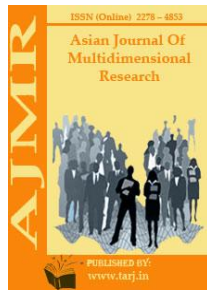
The experiment was conducted in a young anorak and was performed on July 8 using a motorized suspension sprayer. In each variant, 6 bushes of wood were selected. Five drugs were studied in the experiments: Bagira-N, Camelot, Imidor, Endjeo (all 0.2 l / ha) and Tsiraks - 0.3 l / ha. 200 l of water per hectare was used (Table 1), all drugs were studied in the pomegranate within 14 days of control against Comstock worms.

CONCLUSION

In conclusion, drugs belonging to the class of nicotinoids (imidocloprid, acetamiprid, thiamethoxam) give high efficacy against worms (chervets), while synthetic pyrethroids Tsiraks showed a satisfactory effect on others.

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THE IMPORTANCE AND NECESSITY OF TEACHING COMPUTER SCIENCE AND PROGRAMMING FOR PRIMARY SCHOOL STUDENTS

Muhayyo Mansurjonqizi Bahromova*

*Lecturer,
Namangan State University,
Namangan, UZBEKISTAN

ABSTRACT

The article highlights the importance and objective necessity of teaching computer science and programming to primary school students in the progress of the country's education system at the current stage of development. Furthermore, it outlines the specifics of computer literacy and skills development for primary school students in the context of the development of the digital economy. The article describes that in a developing information society, the basis of social development is not only traditional opportunities, but also people's ability, initiative, creative approach to work, intellectual activity, independent improvement of their knowledge and skills, and, at the same time, the processes of storing, transmitting and receiving large amounts of data are the biggest impetus for the development of computer technology in various fields of human activity.

KEYWORDS: *Digital Economy, Education System, Computer, Technology, Informatics, Programming, Programming Elements, Primary Education, Information, Algorithm, Program, Science, Innovation.*

INTRODUCTION

It is known that young generation are an important subject of socio-political, economic, cultural and spiritual renewal of society to stimulate development and influence the processes taking place in life, and it is important to bring them up as harmoniously developed individuals. The future of any society is determined by the level of development of its education system, which is an integral part of it and a vital necessity. Today, the reform and improvement of the system of continuing education in our country, which is on the path of independent development, raising it to a new level, the introduction of advanced pedagogical and information technologies and improving the efficiency of education has risen to the level of state policy. With the adoption of the Law "On Education" and the "On the National Training Program" in the Republic of Uzbekistan, the basis for modern training through the system of continuing education has been created.

Present socio-economic reforms are being implemented by paying special attention to the development of the education system. In particular, the Decree of the President of the Republic of Uzbekistan dated February 7, 2017, № PD-4947 "On the Action Strategy for five priority areas of further development of the Republic of Uzbekistan for 2017-2021s", also includes further improvement of the system of continuing education, increasing the capacity of quality educational services, continuing the policy of training highly qualified personnel in line with modern needs of the labor market, radically improving the quality of general secondary education, in-depth study of foreign languages, computer science and other important and demanding sciences such as mathematics, physics, chemistry, biology, as well as other important tasks [1].

Also, the Presidential Decree № PD-5712 "On approval of the Concept of development of higher education system of the Republic of Uzbekistan until 2030" dated April 29, 2019, the Presidential Decree № PD-6108 "On measures to develop education and science in the new period of development of Uzbekistan" dated November 6, 2020, the Presidential Decree № PD-4884 "On additional measures for further improvement of the education and upbringing system" dated November 6, 2020, and also the resolutions № PD-4963 "About measures for support of research activities and implementation of system of continuous professional development in the field of national education" dated January 25, 2021 and other regulations related to this activity determine the relevance of the research.

At the current time, it is complicated to imagine starting a business in any field and managing it without a computer. To be a literate person in the 21st century, it is needed to be computer literate and have a good command of information technology. Every professional, regardless of the field in which he works, must know and work with the means of information production and methods of their use in order to perform their duties at the level of modern requirements. That is why at present, the radical reforms in the field of education in our independent Republic, including the "National Training Program", it is emphasized: "It is aimed to restructure the system and content of training personnel based on the prospects of social and economic development of the country, the needs of society, modern achievements in science, culture, engineering and technology".

At present, a comprehensive study of the factors and the mechanism of influencing the pedagogical principles of ICT application, its psychological features and cognitive process, or how effective it is to use ICT in full or in part of a subject in general secondary education, as well as many other aspects, is becoming relevant.

Electronic information-educational resources- programs have been created for educational institutions, which serve as a training ground for teachers on the use of modern techniques. This will assist teachers to better organize the lessons and improve their skills. The work on creation, development and popularization of multimedia programs is bearing fruit. In educational institutions, students are learning about science directly on the Internet or in classrooms using discs and audio discs. Nowadays, the ranks of our young generation, who are able to use modern information technologies and amaze the world with their potential, are growing. All this is the result of the creation of favorable conditions and opportunities for young people in our country.

It is known for all that the XXI century is the age of globalization, the century of technology. Currently, science and technology are evolving rapidly, which is requiring the use of new technologies. It is important to increase the effectiveness of lessons, the effective use of new

technologies, knowing that every educator is responsible for the education of our future youth a highly cultured and well-educated.

The school serves as a foundation for students to learn. For this reason, schools are provided with the necessary equipment for interactive teaching of computer science, English and similar subjects, for example, computers and interactive whiteboards. These days, it is necessary to use pedagogical technologies effectively to attract students' attention to computer science. In order to increase the effectiveness of education, it is advisable to pay more attention to the student in the classroom in individual manner.

Involving primary school students in the process of learning the elements of computer science and programming is a strategic task in all education systems aimed at learning the basics of computer science. The insufficiency of the didactic and research work on teaching computer science education from primary school, teaching aids, scientific-methodical articles and their age and psychophysiological features, as well as sanitary-hygienic rules, and pedagogical software developed in accordance with the technical requirements, requires further in-depth study of this topic. The computer science education in primary school can be justified as an experiment on the introduction of new information technologies in primary school, aimed at forming the basis of fundamental knowledge and methods of work that will contribute to the effective mastery of computer science education in the future.

Development of various educational programs aimed at informatization of society and teaching informatics in the stages of continuing education, and the development of informatics as much as possible in an environment where education should focus on informatics from the lower levels - evaluation is appropriate.

In a developing information society, the basis of social development is not only traditional opportunities, but also people's ability, initiative, creative approach to work, intellectual activity, independent improvement of their knowledge and skills, and, at the same time, the processes of storing, transmitting and receiving large amounts of data are the biggest impetus for the development of computer technology in various fields of human activity.

Therefore, the informatization of the general secondary education system should be considered in the broadest sense as the provision of education with the practice of effective use and creation of new information technology tools aimed at methodological, psychological and pedagogical implementation of teaching objectives. The pedagogical objectives of the use of computer technology in the primary school should be reflected in the following, that is a computer is:

- The object of study of computer science;
- A tool that increases the effectiveness of the learning process;
- A tool for teaching various subjects;
- A tool for monitoring and evaluation;
- A means of interaction;
- A tool of educational modeling;
- A means of educational activity;
- A component of the pedagogical management system;

- Application in the field of defectology;
- A tool of technical creativity.

Induction and deduction, generalization and definition, analysis and synthesis, classification and systematization, abstraction and simulation are among the methods and techniques of student thinking in the process of teaching using computers and their tools. This serves as a for the expression, substantiation and proof of ideas to draw logical conclusions, and on this basis for the growth of logical thinking.

The use of software in the primary school curriculum should directly support the universal activities of students. As for the software used in education today, it includes various text and graphics editors, spreadsheets, database management systems, and more.

In case these software tools provide the ability to write, compute and draw correctly, to exchange ideas at this stage of education, it satisfies the learning process in all respects, and enables to deepen the use of new information technologies in later stages of education.

The introduction of new information technologies is associated with the development of a number of other software tools that facilitate the educational process. Examples of such programs are training, testing, virtual demonstration, simulation, control and other programs. Their direct application allows the use of computers as a tool to solve traditional didactic problems.

The introduction of modern pedagogical technologies using computers can significantly increase the cognitive activity of students. The computer attracts students with its great potential as an object of learning.

For primary school students, computer technology itself is a novelty, and mastering its capabilities and skills and interest in learning to work with it, can be a good factor for their learning and development process. Although computer science is in the process of becoming a scientific fundamental and educational science, it, like other basic sciences, provides the formation of universal mental abilities of students.

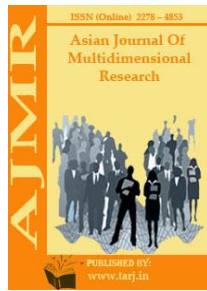
Therefore, it is advisable to introduce computer science education in primary school. From our point of view, the development of software in this area will determine its practical application in various disciplines. In order to increase the effectiveness of computer science lessons, it is necessary to use information and communication technologies, create conditions for teachers to compose virtual lectures, experimental stands, which are the most effective methods and means of communication, and use them in the classroom. It allows to gain new knowledge and solve a variety of problems. At the same time, it assesses the level of training of teachers at the undergraduate level, selects problems according to the purpose of training, provides informational and programmatic support in solving them, receives, analyzes and evaluates their answers.

This principle of innovative educational technologies creates a series of devices that control the cognitive activity of teachers. The educator creates initial guidelines for mastering the topic and, in case of need, provides them with individual assistance, in collaboration with a methodist specialist, develops a program for mastering the topic with the help of a computer. Modern information technologies open up endless possibilities for teachers to access non-traditional sources of information, increase the efficiency of independent work, provide completely new opportunities for creativity, creation and strengthening of various professional skills, and allows

the implementation of new forms and methods of teaching through using tools to create conceptual and mathematical models of events and processes.

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FACTOR ANALYSIS OF THE CAUSES OF DEVELOPMENT OF COMPLICATIONS AFTER SURGICAL TREATMENT OF DIFFUSE TOXIC GOITER

Murodjon Foziljonovich Nishanov*; **Diloram Fozilovna Nishanova****;
Muslim Rustamovich Aliboev***; **Farrukh Anvarovich Urinov******

*DSc, Associate Professor,
Department of Surgery and Urology of the ASMI,
UZBEKISTAN

**Head of the Department of Endocrinology,
Clinic AGMI, UZBEKISTAN

***Doctoral Student,
Department of Surgery and Urology of the ASMI,
UZBEKISTAN

****PhD, Assistant,
Department of Surgery and Urology, UZBEKISTAN

ABSTRACT

The authors analyze the prognostic risk factors for the development of complications after surgical interventions on the thyroid gland. The authors conclude that, depending on the type of operation, a different structure of complications was noted, in particular, if the prevalence of hormonal changes is characteristic of total thyroidectomy - 62.5% and complications against the background of technical aspects of the operation 12.5% (postoperative laryngeal paresis), and after subtotal resections, specific hormonal changes accounted for 23.5% and 2.9% postoperative laryngeal paresis.

KEYWORDS: *Thyroid Gland, Diffuse-Toxic Goiter, Strumectomy, Thyroidectomy, Subtotal Resection.*

INTRODUCTION

Diffuse toxic goiter (Graves / Basedow's disease) is an autoimmune disease characterized by uniform damage, enlargement and hyperfunction of the thyroid gland (TG), which develops as a result of the production of antibodies to the thyroid stimulating hormone receptor (AT-rTTG),

which stimulate the synthesis of the thyroid gland (TG) of excess the amount of hormones [2,3,4].

The prevalence of thyrotoxicosis among women is 0.5-2.5% and among men - 0.3-0.5%. According to K. Boelaert et al. (2010), J.A. Franklyn (2013), in 70-80% of the total number of these cases, the cause is diffuse toxic goiter (DTG).

The surgical method of treating DTG remains the leading one, [5,6,7] due to the absence of a persistent clinical effect after therapy with thyreostatic drugs. With the surgical method of treatment, the elimination of thyrotoxicosis is most quickly achieved. In 40% of patients with DTG, one or another surgical intervention is performed. The main contraindications for surgical treatment of DTG are the acute period of myocardial infarction, oncological and infectious diseases, acute cerebrovascular accident, mental disorders. Subcompensated thyrotoxicosis is a relative contraindication [1].

According to the literature, surgery of thyroid nodular pathology currently includes procedures for subtotal thyroidectomy, which has a high percentage of recurrences, and total thyroidectomy, which has a high percentage of postoperative complications. Proponents of subtotal thyroidectomy argue that with a small thyroid gland residual, the incidence of clinical relapses requiring surgical intervention does not exceed 4%.

Aim: To study the factor analysis of specific complications after surgical treatment.

Materials and research methods: In the comparison group, the overall incidence of early postoperative complications was 43.4% (23 of 53 patients) after total thyroidectomy (TTE) and 21.9% (25 of 114) after subtotal subfascial strumectomy (SSS), (Table 1).

TABLE 1 THE INCIDENCE OF EARLY POSTOPERATIVE COMPLICATIONS IN THE COMPARISON GROUP

Complications	TTE (n=53)		SSS(n=114)	
	Abs	%	abs	%
Hypocalcemia	12	22,6%	9	7,9%
Bleeding	3	5,7%	3	2,6%
Tracheomalacia	1	1,9%	0	0,0%
Dysphonia	18	34,0%	19	16,7%
Suppurationofthewound	2	3,8%	2	1,8%
Patientswithcomplications	23	43,4%	25	21,9%
χ^2	8,140; Df=1; p=0,005			

In this structure, the following postoperative events after TTE were noted: hypocalcemia (22.6%; 12 cases), bleeding (5.7%; 3 patients), tracheomalacia (1.9%; 1 case), dysphonia (34.0%; 18), which had the highest percentage, and 2 patients with postoperative wound suppuration (3.8%). Moreover, after SSS, each of these complications was noted with a lower frequency and a significant statistical difference. For example, the frequency of dysphonia was 16.7% (19 out of 114), hypocalcemia - 7.9% (9 out of 114), and there were no cases of tracheomalacia (Table 1).

The next most common one is laryngeal paresis, which occurred in 13.2% (7 out of 53) cases after TTE and 5.3% (6 out of 114) after SSS. At the same time, paresis of both vocal cords was noted in 3.8% (2 out of 53) cases in the TTE group and 0.9% (1 out of 114) in the SSS group.

In total, complications from the vocal folds were observed in 18 (34.0%) patients after TTE and 19 (16.7%) patients after SSS.

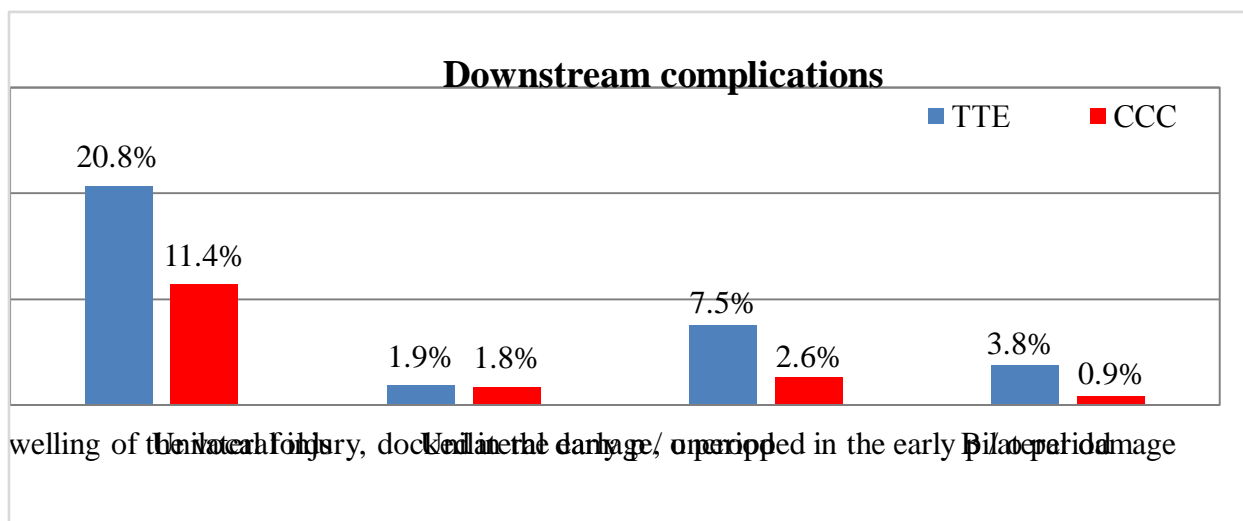
According to the severity of the course, vocal fold edema was noted in 20.8% (11 of 53) cases after TTE and 11.4% (13 of 114) - after SSS. Unilateral damage arrested in the early p / o period was detected in 1 (1.9%) patient in the TTE group and 2 (1.8%) in the SSS group. Unilateral damage that was not closed in the early p / o period was noted with a higher frequency, both in the TTE group (7.5%; 4 out of 53) and in the SSS group (2.6%; 3 out of 114). There were also fewer cases of bilateral vocal cord injury in the SSS group (0.9%; 1 out of 114) than in the TTE group (3.8%; 2 out of 53) (Fig. 1).

Table 2 shows the structure of complications noted from the vocal cords in the early period after surgery. Thus, it can be seen that vocal fold edema was most often detected, both in the TTE group (20.8%; 11 out of 53) and after SSS (11.4%; 13 out of 114) with a statistically significant difference in favor of SSS

TABLE 2 COMPLICATIONS FROM THE VOCAL FOLDS IN THE EARLY PERIOD AFTER SURGERY

Complications	TTE (n=53)		SSS (n=114)	
	Abs	%	Abs	%
Swelling of the vocal folds	11	20,8%	13	11,4%
Laryngeal paresis	7	13,2%	6	5,3%
Left vocal fold	2	3,8%	2	1,8%
Right vocal fold	3	5,7%	3	2,6%
Both vocal folds	2	3,8%	1	0,9%
Patients with these complications	18	34,0%	19	16,7%
Patients without these complications	35	66,0%	95	83,3%
χ^2	6,275; Df=1; p=0,013			

Fig. 1. Distribution of early postoperative complications from the vocal folds by the severity of the course



At the time of discharge of patients from the hospital, the frequency of cases with persistent damage to the vocal folds was 11.3% (6 out of 53) after TTE and 3.5% (4 out of 114) after CVS (Fig. 2).

In the remaining 22.6% (12 of 53) cases after TTE, the complication was arrested in the early period. This indicator in the SSS group was 13.2% (15 out of 114).

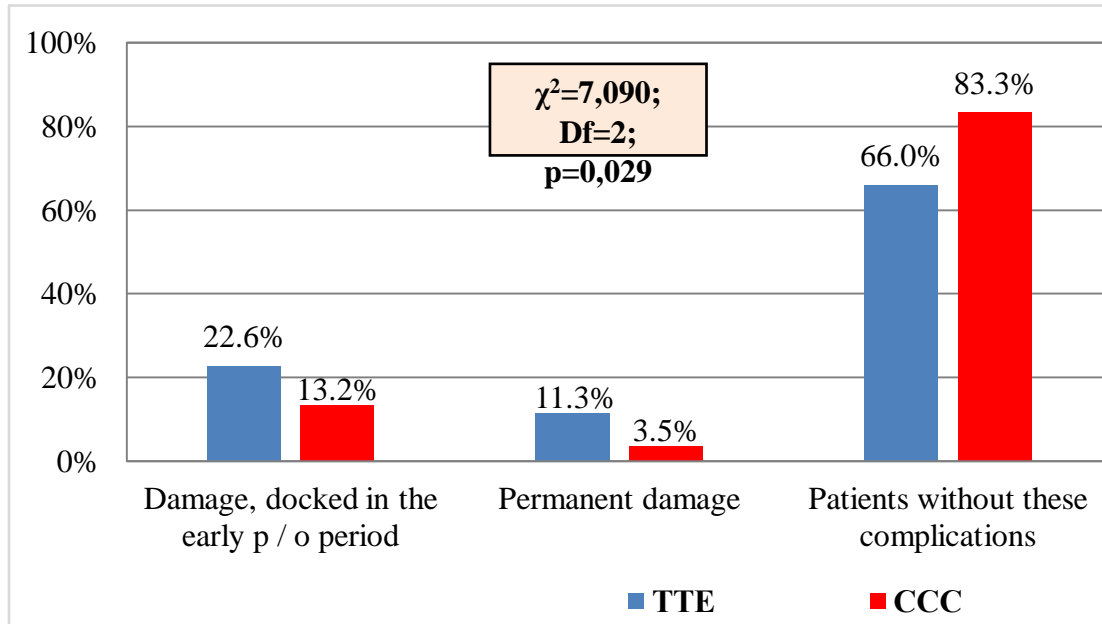


Fig.2. Distribution of early postoperative complications from the vocal folds by outcome at the time of discharge

After discharge, 150 of 167 patients were followed up, 48 after TTE and 102 after SSS.

In the period 6-24 months after the operation, the relapse of the disease was not observed in the TTE group, whereas after SSS, relapses were diagnosed in 13.7% (14 out of 102) cases (Table 3). At the same time, after TTE, half of the patients (52.1% 25 out of 48) had hypothyroidism, and after SSS - 26.5% (27 out of 102).

Persistent laryngeal paresis persisted with a higher frequency after TTE (12.5%; 8 out of 48) than after SSS (2.9%; 3 out of 102).

It was also possible to note such hormonal disorders as hypoparathyroidism, revealed with a higher frequency after TTE - 16.7% (8 out of 48) versus 2.9% (3 out of 102) after CVS, and drug thyrotoxicosis, noted in 18.8% (9 out of 48) cases after TTE and not noted after SSS.

In total, 75.0% (36 of 48) patients with late postoperative complications were observed after TTE, and 40.2% (41 of 114) after SSS.

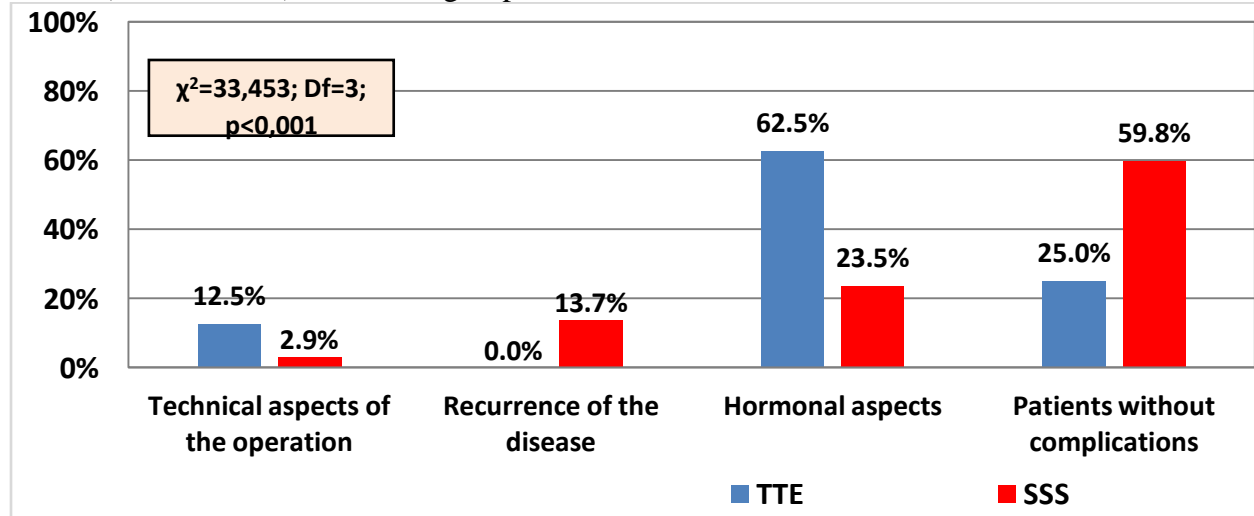
Table 3

Complications	TTE (n=48)		SSS (n=102)	
	КОЛ-ВО	%	КОЛ-ВО	%
Recurrence of the disease	0	0,0%	14	13,7%
Medication thyrotoxicosis	9	18,8%	0	0,0%
Hypothyroidism	25	52,1%	27	26,5%
Hypoparathyroidism	8	16,7%	3	2,9%

Persistent paresis of the larynx	6	12,5%	3	2,9%
Patientswithcomplications	36	75,0%	41	40,2%
Patientswithoutcomplications	12	25,0%	61	59,8%
χ^2	15,826; Df=1; p<0,001			

Comparative incidence of late postoperative complications (6-24 months after surgery)

According to the main causative factor, complications were distributed as follows (Fig. 3): the majority were hormonal factors, accounting for 62.5% (30 out of 48) in the TTE group and 23.5% (24 out of 102) in the SSS group.



Rice. 3. Distribution of the frequency of complications by the main causative factor

Further in frequency, in the TTE group, there were technical aspects of the operation that took place in 12.5% (6 out of 48) cases, and in the SSS group - relapses of the disease, amounting to 13.7% (14 out of 102), which was not observed as a causal factor of complications after TTE.

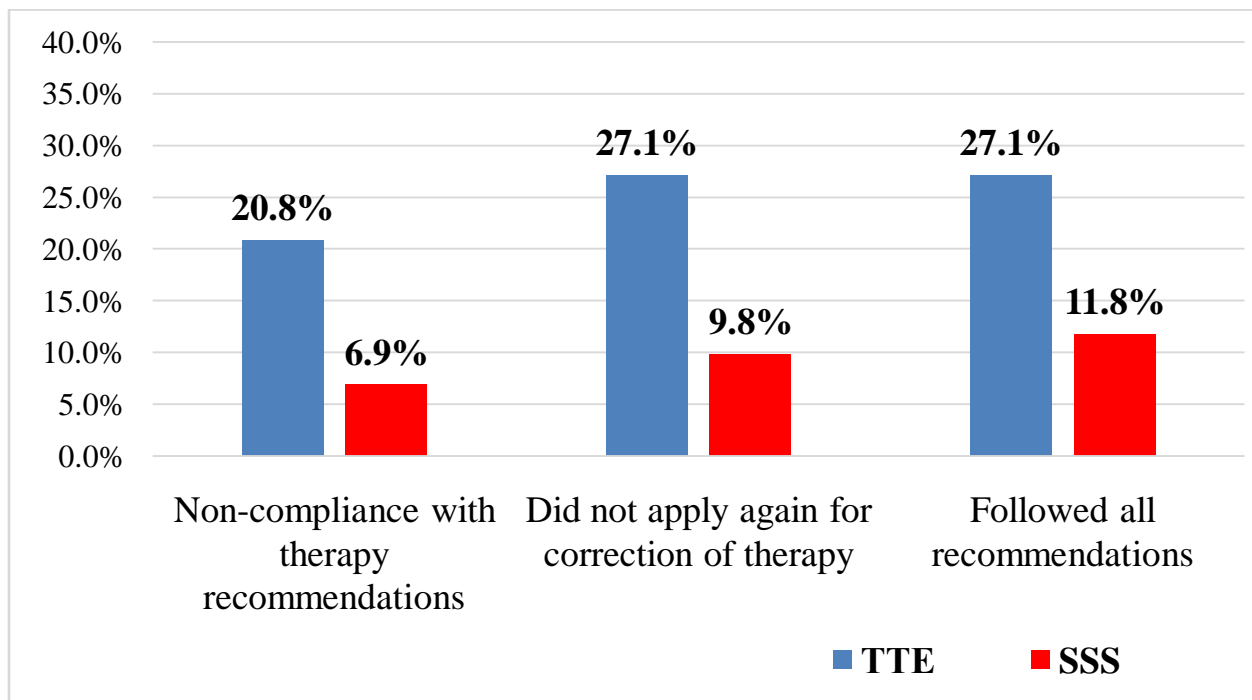


Fig. 4. Distribution of patients according to adherence to recommendations after surgery

Figure 4 shows that after TTE with high adherence to postoperative conservative therapy there were 27.1% (13 of 48) patients, and after SSS - 11.8% (12 of 102). At the same time, non-compliance with the recommendations for therapy was noted in 20.8% (10 of 48) cases after TTE and 6.9% (7 of 102) - after SSS.

When comparing the incidence of late postoperative complications, while following the postoperative recommendations, it was possible to observe that the incidence of drug thyrotoxicosis decreased by half (8.3% after correction versus 18.8% before correction) after TTE (Table 4). also in the TTE group, the incidence of hypothyroidism was reduced from 52.1% to 16.7%, hypoparathyroidism - from 16.7% to 4.2%.

TABLE 4 COMPARATIVE INCIDENCE OF LATE POSTOPERATIVE COMPLICATIONS (6-24 MONTHS AFTER SURGERY)

Complications	TTE (n=48)		TTE (n=48)	
	Beforecorrectio n	%	Aftercorrectio n	%
Medicationthyrotoxicosis	9	18,8%	4	8,3%
Hypothyroidism	25	52,1%	8	16,7%
Hypoparathyroidism	8	16,7%	2	4,2%
Patientswithhormone. complications	36	75,0%	12	25,0%
Patientswithouthormone. complications	12	25,0%	36	75,0%
χ^2	24,000; Df=1; p<0,001			
Complications	SSS (n=102)		SSS (n=102)	
	Beforecorrectio n	%	Aftercorrectio n	%
Medicationthyrotoxicosis	0	0,0%	0	0,0%
Hypothyroidism	27	26,5%	6	5,9%
Hypoparathyroidism	3	2,9%	1	1,0%
Patientswithhormone. complications	29	28,4%	7	6,9%
Patientswithouthormone. complications	73	71,6%	95	93,1%
χ^2	16,325; Df=1; p<0,001			

In the group of patients after SSS, there was also a tendency to a decrease in the frequency of hormonal disorders of DTG after surgical treatment. Thus, the incidence of hypothyroidism decreased from 26.5% to 5.9%, and hypoparathyroidism - from 2.9% to 1.0% (Table 4).

The summary frequency of complications noted in the long-term period after surgical treatment of DTG is presented in Table 5. Thus, it can be seen that the overall incidence was 37.5% (18 out of 48) after TTE and 21.6% (22 out of 102) after SSS. At the same time, the incidence of hypothyroidism was significantly lower after SSS (5.9% versus 16.7% in the TTE group), as well as the incidence of hypoparathyroidism (1.0% versus 4.2%) and persistent laryngeal paresis (2.9% versus 12.5%).

TABLE 5 CONSOLIDATED FREQUENCY OF LONG-TERM COMPLICATIONS AFTER CORRECTION OF HORMONAL DISORDERS

Complications	TTE (n=48)		SSS (n=102)	
	Abs	%	Abs	%
Recurrenceofthedisease	0	0,0%	14	13,7%
Medicationthyrotoxicosis	4	8,3%	0	0,0%
Hypothyroidism	8	16,7%	6	5,9%
Hypoparathyroidism	2	4,2%	1	1,0%
Persistent paresis of the larynx	6	12,5%	3	2,9%
Patientswithcomplications	18	37,5%	22	21,6%

Patients without complications	30	62,5%	80	78,4%
χ^2	3,253; Df=1; p>0,05			

Factor analysis showed that in the structure of the main causes of the complicated course of the early and late period after surgical treatment of DTG, the share of technical aspects of the operation with the development of persistent paresis of the larynx accounts for 6.0% of cases (after TTE - 12.5%; SSS - 2.9%), specific hormonal changes after corrective therapy - 11.3% (TTE - 25.0%; SSS - 4.9%) and recurrence of the disease - 9.3% (TTE - 0; 13.7% after SSS), with this, in general, an uncomplicated course was noted in 73.3% of patients (TTE - 62.5% and SSS - 78.4%) (Fig. 5)

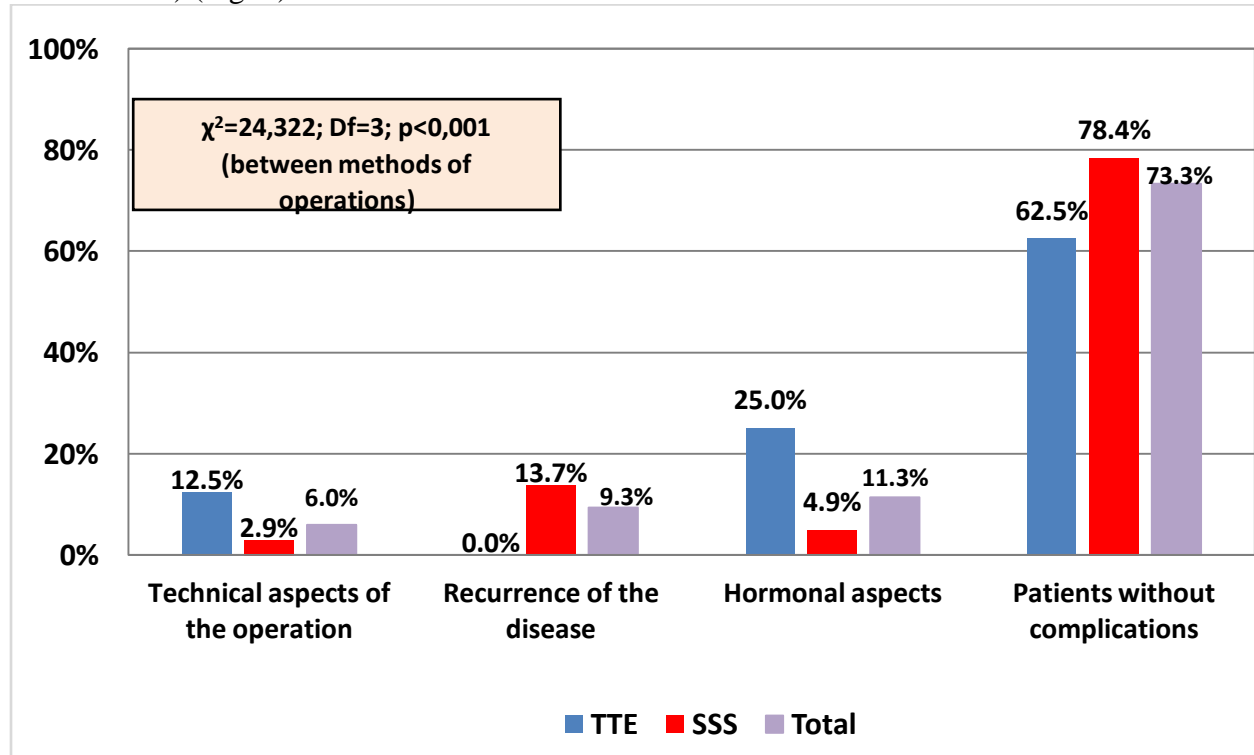


Fig. 5. Distribution of the frequency of complications after correction of therapy by the main causative factor

CONCLUSION

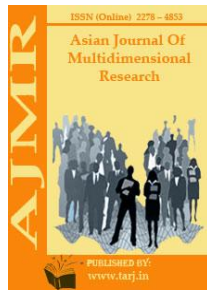
Thus, the factor analysis of the main causes of the complicated course of the early and late (up to 24 months of follow-up) period after surgical treatment of DTG showed that, depending on the type of operation, a different structure of complications was noted, in particular, if TTE is characterized by the predominance of hormonal changes - 62.5 % (in 30 out of 48 patients) and complications associated with the technical aspects of the operation (persistent laryngeal paresis - 12.5% - in 6 out of 48), and after subtotal resections these indicators were 23.5% (in 24 out of 102 patients there were specific hormonal changes) and 2.9% (in 3 patients postoperative laryngeal paresis), but at the same time there was a relapse of the disease in 13.7% of patients (in 14 out of 102 patients).

In general, the share of uncomplicated course was 25% (12) after TTE and 59.8% (61) after SSS. The main factor in the development of hormonal abnormalities in the long-term period after

surgical treatment of DTG was non-compliance by patients with recommendations for substitution therapy, which was noted in 47.9% of cases (23 of 48) after performing TTE and in 16.7% of patients (17 of 102) after SSS, in turn, in 27.1% (13) and 11.8% (12) cases, similar complications were identified with full adherence to the recommendations. Correction of hormone replacement therapy made it possible to reduce the frequency of this group of complications from 62.5% to 25.0% after TTE and from 23.5% to 4.9% after SSS, which, taking into account other complications (persistent laryngeal paresis - 12.5% and 2.9%, respectively, relapse of the disease in 13.7% of patients after SSS) (in 14 out of 102 patients) caused a decrease in the total proportion of postoperative complicated course from 75.0% to 37.5% after TTE and from 40.2% to 21.6% after SSS.

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PUBLIC CONTROL AS AN IMPORTANT CONDITION OF CIVIL SOCIETY

Shaxriddin Ganiyev*

*Associate Professor,
Tashkent Institute of Finance, UZBEKISTAN
Email id: shahridinganiyev65@gmail.com

ABSTRACT

In this article, it is revealed that public control is the main factor that serves to balance, equality, mutual responsibility and responsibility between the individual, society and public relations in order to find social justice decision in the society. The human rights and freedom of people are not only guaranteed by the state, but also ensure their priority importance in the activities of state bodies, and the existence of public control in this is an important indicator of the fact that political power is literally a nationalist.

KEYWORDS: Civil Society, Public Control, Non-Profit Organizations, Self-Government Bodies Of Citizens, Control Bodies, People's Reception, Human Rights, Interests Of Citizens, General Discussion.

INTRODUCTION

The socio-political activity of citizens in the Society of Uzbekistan is developing year by year. Citizens are not indifferent to the political processes and reforms carried out in the country. In particular, the citizens' desire to express their interests through social activity and non-governmental organizations, to satisfy them is growing. But at the same time, in order to increase the activity of citizens in decision-making, in their worldview, the need for the development of political and legal consciousness on the basis of democratic principles is felt.

On September 19, 2017, at the 72nd session of the General Assembly of the United Nations, the president of our country Shavkat Mirziyoyev said that "our open dialogue with national and international non-governmental organizations on the issues of human rights protection is continuing. Now, the activities of all law enforcement agencies in the field of protection of human rights and freedom are constantly monitored by the parliament and citizens. In our country, the role of political parties, civil society is increasing, the true independence of judicial bodies is ensured. The role of the media is significantly increasing," [1] said, noting the role and importance of civil society institutions in increasing the socio-political activity of citizens. From

the comments of the president of our country standing on the rostrum of an international authoritative organization, it becomes clear that at the next stage of its development Uzbekistan firmly relies on the subjects of public control in the administration of the country.

It remains to be noted that the activity of citizens is more noticeable in the participation in the processes of discussion of draft laws. In particular, in the past period, many issues have been put on public discussion on the single platform of public initiatives "Mening fikrim", and in the end the opinions of citizens are taken into account. Collective appeals are the basis for consideration by local councils of the chambers of the Oliy Majlis or people's deputies.

In our opinion, when it is called public control over the activities of state bodies, it is necessary to understand the social control of independent and knowledgeable subjects established by law and aimed at ensuring legitimacy in the activities of state bodies.

In this regard, the law "on public control" adopted in our country on April 12, 2018 is of particular importance. After all, it is precisely through this legal document that the subjects of public control, the forms of its implementation and legal norms were clearly defined.

The purpose of public control over the activities of state bodies is not only to ensure compliance with the legal rights, land and interests of citizens in the process of state activity, but also to demonstrate the support of the normative legal framework of professional provision of the implementation of state powers on the scale of the needs and will of the people. But in this responsibility responsibility does not remain in the print queue, but must also be taken into account from the point of view of psychological acceptance of civil obligations imposed on the subject of legal relations in the manner of control under and above control.

In order to achieve the objectives of the present, it is important to clearly clarify the tasks facing the supervisory authorities. In the sentence of the main tasks in the control of state bodies, the following can be included:

- 1) control over compliance with regulatory requirements by state bodies;
- 2) control over the compliance of legal documents issued by state bodies with the law;
- 3) control over the compliance of managerial decisions on the organization and implementation of the activities of state bodies with them;
- 4) control over the timely and complete implementation of prohibitions and restrictions established for state bodies, Service Discipline, obligations imposed on state bodies;
- 5) control over the selection, placement, professional development of personnel composition of state bodies;
- 6) control over the observance of the rights and freedom, interests of citizens, protected by law;
- 7) control over the rational distribution and use of material, financial and other reserves, the application of thriftiness, etc.

The powers of the body of state power are at its disposal, that is, in the volume of legally established general works performed by the autonomous subject. The volume of the general work of a particular state body is determined by the normative-legal acts that determine its compensation. The competence of the state body of power includes the subject of management (the sphere of "relevant" social relations) as a set of powers, as well as its main areas of activity

(functions). Thus, it can be said that the legal feature of the state body is the implementation of efforts to protect human rights and freedom.

Thus, it is understood that the behavior carried out within the framework of the established powers is the primary element of the dignity and efficiency of the state body and the necessary substantive core, as a core, can become an object of public control. If it is said that the concrete framework in force depends on the implementation of certain rights (powers) of the state body, then it is permissible to consider the subject of public control as the process and procedure for the implementation of the powers assigned to the state body by performing concrete actions in the form prescribed by law. In a broader sense, when it is called public control, it is necessary to consider the set and system of all types of state and legal relations.

One thing to pay attention to is that the subject of control established by the legislation focuses the attention of the content control bodies to the verification of the fulfillment of the requirements in the normative legal acts established by the state administration. In such cases, the sphere of the control effect is sharply limited. After all, control requires not only the observance of prohibited norms, but also the verification of the legality of the activities of state bodies, that is, their activities are in compliance with the law.

The content of the subject of control over the apparatus of Public Administration is not legality, in turn, includes the expediency, effectiveness of the activities of the people's authorities. K.S.Velskiy noted that "the supervisory authorities not only check whether the subject of management has violated or not the current legislation, but also conduct an inspection of how correctly, effectively and purposefully they have used the powers granted to him" [2].

Of particular importance is the law of the Republic of Uzbekistan "on public control" adopted on April 12, 2018. After all, it is precisely through this legal document that the subjects of public control, the forms of its implementation and legal norms were clearly defined.

Public organizations registered on the territory of the Republic of Uzbekistan in accordance with the established legal procedure:

1) Political Parties; 2) social associations; 3) Trade Unions; 4) legal protection actions; 5) social councils (Chambers); 6) Media; 7) citizens of the Republic of Uzbekistan.

Speaking about the various manifestations of public control in public administration today, undoubtedly the most impressive and effective among them are the people's reception and virtual reception of the president of the Republic of Uzbekistan. Because such a completely new system, in which the appeals of the population are taken into account without words, were not created so far and, by analogy, did not quickly gain people's attention, unlike others.

So what is its advantage?

On December 28, 2016, the Presidential Decree "on measures to radically improve the system of working with appeals of individuals and legal entities" was published [3]. After that, on September 11, 2017, the head of our state Shavkat Mirziyoyev signed the law "On Appeals of Individuals and Legal Entities" in the new edition approved by the Senate [4]. In Article 10 of this law "...The people's receptions of the president of the Republic of Uzbekistan will not have the status of a legal entity," the self-determination of which shows the Real expression of the principle of "people's interests are above all". In accordance with it, the state bodies, organizations and their officials of the people's reception and virtual reception of the president of

the Republic of Uzbekistan shall be established by the president of the Republic of Uzbekistan in order to organize effective consideration of Appeals [5].

It is noteworthy that the virtual Reception Room of the president of the Republic of Uzbekistan has been defined as an information system that allows receiving, collecting, classifying and systematization of incoming appeals with the help of information and communication technologies, as well as monitoring and control over their full, timely and qualitative consideration.

In addition, through the activities of these receptions, necessary conditions were created for the organization of direct communication with the population, full protection of their rights, freedom and legitimate interests, unconditional implementation of the constitutional right of people to apply.

In addition, on the basis of the virtual reception of the president of the Republic of Uzbekistan attracted qualified specialists from various sectors and spheres of activity as consultants, the practice of real-time consultation of individuals and legal entities on issues of Appeals was established [6].

Of course, such measures, which were implemented in the interests of the people, did not remain without showing its positive results. At the same time, this system also showed how fast the state bodies are working with the appeals of the population.

In a word, the principle of the president of the Republic of Uzbekistan Shavkat Mirziyoyev "the people should serve our people and not state agencies" found its proof of action, the president of the Republic of Uzbekistan established with the purpose of introducing a qualitatively new system of working with appeals of individuals and legal entities, the people's reception rooms of the President

We have already expressed our opinion on the advantages of the modern, most advanced trend of public control today. Of course, such processes do not take place without significant historical-evolutionary conditions.

It should not be forgotten that public control is an indispensable sign of civil society [7]. In the formation of civil society, special priority is given to issues related to the restriction of interference of the state in the economic sphere, economic structures, primarily private sector activities, as well as public control over the bodies of state power over the implementation of laws.

The presence of strong public control over the activities of state bodies of power is, in turn, one of the most important conditions for the restoration of civil society. Therefore, the activity of citizens, their indifference to social events and the deep sense of the fact that each civil servant is under the control of the public, is of paramount importance in the process of forming civil society. Referring to the preference and importance of public control over the functions of state control, the first president of our country, Karimov, in particular, said: "let us not forget that the more we carry out the functions of state control, the greater the number of state structures and bodies engaged in control, the more violence and corruption of officials will escalate. Therefore, we should pay attention to public control over the activities of the state, including the activities of its power-consuming structures. There is no other alternative in this matter" [8].

Public control, which is carried out by institutions of civil society, is primarily an important direction in the activities of public organizations – political parties, local self-government bodies, trade unions, consumer associations, etc. Consequently, communication of the authorities with the people through public organizations plays an important role in the development of democracy. However, the authorities should explain their policies and actions to the people and give account before him.

Proceeding from the above considerations, the content and essence of public control can be described in the following directions:

1. Constant systematic monitoring of the activities of the authorities (we noted this on the example of people's receptions).
2. Conduct targeted monitoring of the activities of the authorities. For example, control over the policy of environmental public organizations in the field of ecology of public authorities.
3. To ensure the participation of the public in making decisions that are socially important (now the social portal "Mening fikrim" is the leader in this regard).
4. Organization of Control commissions, public Councils under the authorities, etc.

Institutions of civil society through their activities aimed at the implementation of public control create a specific force of influence on the state. In short, public organizations carry out public control over political and social processes, issues of state and society construction, as well as by communicating their relations to the draft laws and decisions of the government, which are envisaged to be adopted.

In its place, public control, carried out by institutions of civil society, to a certain extent, ensures that the rights and freedom of a person are not only guaranteed by the state, but also their priority in the activities of state bodies.

Speaking about raising the legal foundations of subjects of public control to a new level in society, undoubtedly, the decree of the president of the Republic of Uzbekistan "on measures to radically increase the role of institutions of civil society in the process of democratic renewal of the country", [9] adopted on May 4, 2018, is of particular importance.

Because so far more than 200 normative legal acts aimed at increasing the effectiveness of the activities of non-profit organizations have been adopted, and the necessary institutional framework has been created to support them in all respects, there have been a number of systemic problems and shortcomings in large-scale reforms that prevent the active participation of non-profit organizations in

For information, more than 9 200 non-profit organizations operating today [10] play an important role in protecting the rights and legitimate interests of individuals and legal entities, democratic values, achieving social, cultural and educational goals.

In the event that social structures function adequately in the organization and development of the activities of society, a chain of resilience and sustainable network arises between the state and public organizations. In fact it is also the saying that neither public Organization nor non-profit associations can justify itself from the socio-political point of view that they operate in a way other than living in the same society. Therefore, it justifies itself that institutions of this type of civil society organize activities in accordance with the norms and requirements adopted in society [11].

If the word goes on about democratization of society, then after independence from the point of view of historical legislation, we will see democratization, Social Thought and control in Uzbekistan on the example of three periods of formation, development and a new stage. After all, the results of sociological surveys, which determine the level of scientific analysis, international recognition and political consciousness of the population, indicate that democracy and public control have entered a new level in the period of President Shavkat Mirziyoyev when Uzbekistan passed the stages of formation and development in the period of the first president Islam Karimov. I must mention again that this process continues consistently [12].

In this regard, it is necessary to comment on the basis of our special reference to the Decree of the President of the Republic of Uzbekistan "On Measures to Radically Increase the Role of Civil Society Institutions in the Process of Democratic Renewal of the Country" during our research. In our opinion, through this normative-legal document, there has been a great change in the activities of subjects of public control. Yanayam to be more precise, the system has undergone modernization; in the course of moving, the form of irregular layout has been eliminated. The result of our analytical studies on these are as follows: For the first time in the history of our country, an Advisory Council on Civil Society Development has been established under the President of the Republic of Uzbekistan.

1. Efforts to create an effective space for mutual exchange of views on important issues of further development of the state and society began to be carried out.
2. At present, special emphasis is placed on the involvement of non-profit organizations in the developme
3. New forms of State promotionnt of state programs and normative legal acts. of non-profit organizations actively participating in the modernization of society are proposed;
4. Practical steps were taken to completely eliminate bureaucratic obstacles to the sphere.
5. With the participation of scientific and expert groups, the mechanism of initiative on Organization of fundamental and practical research in the field of development of civil society, systematic study, generalization and analysis of public opinion on public policy on the development of civil society and its practical results began to function.
6. On the basis of state property objects in the Centers of the Republic of Karakalpakstan, regions and the city of Tashkent, the practice of creating "houses of non-profit organizations" was launched.
7. The first time established a badge "for its contribution to the development of civil society".
8. At the same time, at the promotional events in the regions, the laws of the Republic of Uzbekistan – "on public control", "on social partnership" and "on protection of consumer rights" - began to be coordinated in one direction from the point of view of propaganda.

From the above-mentioned grounds it becomes clear that the institutions of civil society were given wide privileges and preferences. However, from world experience it is known that the most effective form of public control in society is the fight against corruption. The law of the Republic of Uzbekistan "on the fight against corruption" was adopted [13].

It is noteworthy that in accordance with this law, a wide range of participation of citizens in the fight against corruption was allocated by self-government bodies, non-profit organizations and the population. In other words, they are involved in the development and implementation of

state and other programs in the field of fighting corruption, these subjects also actively participate in raising the legal consciousness and legal culture of the population, forming an uncompromising attitude towards corruption in society. In addition, according to the Article 15 of the law, the mass media will participate in activities aimed at the development and implementation of state programs and other programs in the field of fighting corruption and the formation of an uncompromising attitude towards corruption [14].

CONCLUSIONS

The formation of civil society institutions in the country must be carried out directly in conjunction with the establishment of a public institution. After all, such a social process is able to provide incomparable assistance in the conduct of public policy without the exchange of control activities of state bodies to another. Applied wisely and with one goal in mind, on the scale of the political and legal system, public control should solve the problems between citizens and the state by law, that is, with the necessary ways of interaction and mutual responsibility. Such control remains one of the important conditions for the implementation of the print-out of the people's power established in the Constitution of the Republic of Uzbekistan. It should keep in mind that if there is no public control, then there will never be any public authority there. It remains to be noted that this type of control serves as the main condition for the optimization of control activities independently in some cases, and in some cases as an additional tool at the state level.

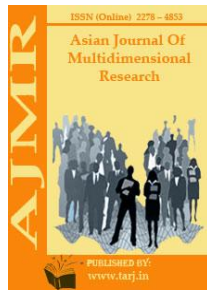
Nowadays, political reform in society has been carried out earlier on the basis of legal methods, therefore, not only a new system of norms (a new system of norms) is being created, but also the legal consciousness and psychology of the general public is being formed. Undoubtedly, as the methods of political transformation correspond to and comply with the goals and objectives of the reforms themselves, this is reflected in the results of the formation of a new political system, in particular in its qualitative characteristics.

Already, in the conditions of democratization of society, social thought and public control have undergone and are experiencing a new era of evolution, which includes modern requirements as well as complex historical changes.

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THE ISSUE OF SPIRITUAL AND MORAL EDUCATION AND TOLERANCE IN THE “AVESTA”

Zafar Khayitov Uzakovich*

*Candidate of Philosophical Sciences
 Navoi State Pedagogical Institute,
 Navoi, UZBEKISTAN
 Email id: @inbox.ru

ABSTRACT

The religion of Zoroastrianism appeared at the beginning of the first millennium BC and it was widely spread in the territory of Central Asia, Iran, Afghanistan, India, Azerbaijan and many other countries in the Middle East. The Avesta, as the sacred book of Zoroastrianism, is a unique source of socio-economic, cultural and spiritual life of the time. The humanistic views in the book developed human spiritual and moral attitudes not only towards the man itself, but also including the interaction of the whole being: soil, air, water, universe, stars and the world of animals. The three-thousand-year development of the peoples of the regions where Zoroastrianism was highly spread, the evolution of human society and the laws of its development were worked out directly on the basis of the laws and norms of the Avesta. In particular, the fact that the socio-economic, cultural, spiritual and moral life and values of the peoples of Central Asia were formed under the strong influence of the Avesta defines its essence as a historical phenomenon.

KEYWORDS: *Zoroastrianism, the Avesta, Ahura Mazda, Ahriman, Monotheism, Tolerance, Spiritual and Moral Norms.*

INTRODUCTION

The “Avesta” (“Basis”, “The collection of primary sayings”) is a sacred book for Zoroastrians, one of the oldest secular religions, and is traditionally a revelation to Ahrat Mazda, the God of goodness and light, from Zarathustra. In the works of ancient Greek scholars of the V-IV centuries BC, the name of the prophet Zarathustra was first mentioned in the form of Zoroaster, and then in Europe the religion was called Zoroastrianism.

The voluminous manuscripts of the original are said to have been destroyed and lost during the conquests of Alexander the Great and the Arabs. The present Avesta that survived was assembled and copied out in 1374 and now is preserved in the library in Copenhagen.

In Abu Rayhan Beruni's work "Monuments of the Past" we find the following information about the Avesta:

“In the treasury of King Darius, son of Darius, there was a manuscript (Avesta) written in gold on the twelve thousand pieces of cow skins. It was burned by Alexander (Alexander the Great - Z.Kh.) when he destroyed the temple of fire and killed the priests. Therefore, since then (from the Avesta) about three-fifths of it disappeared. (Completely) it consisted of thirty "nasks"(books), and what is now in their hands is (about) twelve nasks. Nask is the name of the part (Avesta), as we call the Seventh parts of the Quran. [1, p.207]

The belief in the victory of goodness in the face of Ahura Mazda in the eternal struggle between good and evil, light and darkness is the core concept of Zoroastrianism. So, the world is built on paradoxes: in the physical world - light and darkness, in the nature - life and death, in the spiritual life - constant contradictions between good and evil. The symbol of Virtue and its creator Ahura Mazda continues to create goodness among people, whereas Ahriman, the follower of vice fights against it and leads people to evil. The result of this struggle depends on man consciously standing on the side of goodness. Ideas that call for goodness are the essence of Zoroastrianism, so a person should have a good idea, a good word, and a good deed. Only then virtue will triumph over evil. Ahura Mazda says about goodness and kindness in the Avesta: "Good is only for those who lead others to goodness." [2, p.18]

In Zoroastrianism land, water, air, and nature are revered, and the one who owns open and undeveloped land and turns it into a garden receives divine grace, and conversely, those who destroy gardens, crops, and irrigation facilities fall into great sin. "Zoroaster asked the god Ahura Mazda:

O Maker of the material world, thou Holy One!

Who is the fourth that rejoices the Earth with greatest joy?

Ahura Mazda answered: 'It is he who cultivates most corn, grass, and fruit, O Spitama Zarathustra!

Who waters ground that is dry, or dries ground that is too wet. [3, p.723]

On this point, the German philosopher Hegel commented on Zoroastrianism in the following way: "It is a religion of light and mercy. It is against evil and darkness. The struggle of light with evil is the struggle of life with death. Zoroastrianism calls for the development of the world and the survival of life, planting crops, raising pets, and looking after the land." [4, p.185] Hegel considers Zoroastrianism to be a religion of nature, a religion of existence, but an idea that embodies the destiny of mankind. This is a unique manifestation of the philosophical understanding and study of the harmony between the philosophy of the Avesta and human life, nature and the universe.

According to the philosopher's concept Zoroastrianism is recognized an educator and propagandist of human qualities such as creativity, hardworking and constructional skills. It is noteworthy that in the Avesta the question of the integrity of being, the harmony of human life with nature is closely connected with the spiritual world of man. This situation is viewed in terms

of the strong influence of the environment on the formation of the spiritual world of mankind. According to Zoroastrian morality, a person should create a treat with his own hands, laziness and greed is the source of all vices. Sedentary living, farming and animal husbandry are glorified.

He who does not till the earth, O Spitama Zarathustra! with the left arm and the right, with the right arm and the left, unto him thus say the Earth: "O thou man I who dost not till me with the left arm and the right, with the right arm and the left, ever shalt thou stand at the door of the stranger, among those who beg for bread; ever shalt thou wait there for the refuse that is brought unto thee, brought by those who have profusion of wealth." [5, p. 724]

According to traditions in the tribes engaged in animal husbandry, girls were involved into domesticity, they were taught to spin wool, work on yarn and wheels, weave fabrics, sew clothes. Boys had to know how to graze cattle, take care of camels, horses, manage them, graze herds in pastures, and protect livestock from predators and robbers. From the most notable articles it is obvious that the customs and rituals of Zoroastrians were not absolutely transcendental, but were related to real life needs, the formation of socially necessary skills in people, especially young people.

The Avesta is not only the collection of primary religious texts and ideas, the book also covers secular issues and pays particular attention to moral and ethical issues. Consequently, in Zoroastrianism human spirituality is determined by the purity and goodness of thought, the steadfastness of words, and the humanity and justice of deeds. The book discusses the dignity of goodness, wealth and charity, and the indignity of unacceptable social behaviour such as assault and injustice, theft, betrayal, lying, and unfaithfulness to the covenant. If we compare, the holy book of Christian "Bible" later says: "Thou knowest the commandments: Do not commit adultery, do not kill, do not steal, bear not false witness, do no fraud, honour thy father and mother". [6, p. 1317]

Zoroastrianism is not only the first monotheistic teaching in human history, but also the oldest among the secular religions. [7, p. 6] This teaching was the first to deify the ideas of humanity, sanctify the worldly life; its main tenets were the basis of the later world religions - Christianity, the tenets of Islam and the rules of worship. High moral standards, such as the elimination of various conflicts and clashes between different tribes and clans through monotheism, and unification in the pursuit of common interests, are still becoming a spiritual need of the peoples of the world.

It is known that it is difficult to separate the concepts of good thoughts, good words and good deeds from the ideas of tolerance. After all, if a good thought leads people to perfection, a good word brings them closer to each other. On the other hand virtue and good deeds encourage people to work, to cooperate and to treat each other fairly.

According to Fozila Suleymanova, the researcher of the Avesta in Uzbekistan, every Zoroastrian had to wash five times a day, to purify themselves and worship the Sun. This tradition also passed from Zoroastrianism to Islam. Zoroastrians had to respect nature, land, water, trees, plants, animals. They were required to use the land, irrigate it, plant gardens, raise livestock, especially horses, and sanctify water. This doctrine is still practiced by the peoples of Central Asia, especially the Uzbeks and Tajiks. [8, p. 9-10] The influence of Zoroastrianism on other religions as the oldest secular religion has been acknowledged by many scholars.

The core philosophy of the Avesta is that the whole inner world of human nature, the spiritual world, the idea of living with the need to constantly strive for perfection, plays an important role in it. Sustainable development of human being is an important factor in realizing the potential of intellectual capability and emotional stability.

In Christianity the idea of not resisting evil is propagated, whereas Zoroastrianism encourages us to fight evil with all our might, not to compromise with evil. For example "But love you your enemies: do good, and lend, hoping for nothing thereby: and your reward shall be great, and you shall be the sons of the Highest; for he is kind to the unthankful, and to the evil.

Be ye therefore merciful, as your Father also is merciful.

Judge not, and you shall not be judged. Condemn not, and you shall not be condemned. Forgive, and you shall be forgiven.

Give and it shall be given to you: good measure and pressed down and shaken together and running over shall they give into your bosom. For with the same measure that you shall mete withal, it shall be measured to you again. [9, p. 1340]

In view of the fact that evil cannot be repelled by evil, the first response to evil in Islamic teaching is to remain silent and patient. «No soul gets except what it is due, and no soul bears the burdens of another. Then to your Lord is your return, then He will inform you regarding your disputes», is said in the Qur'an. [10, p. 73]

In Zoroastrianism, special attention is paid to family duties and child rearing. Zoroastrianism considers marriage as a pious duty, a religious sacrament and a holy union of two people. "If a man had the ability to leave offspring, but did not marry, he would be stamped or forced to wear a chain around his waist. Sometimes such a man was beaten in a sack." [11, p. 93-94] The Avesta also forbids the marriage among relatives in order to avoid degeneration and keep the blood of the tribe and the tribe pure without incest.

One of the most important features of Zoroastrianism is the existence of separate rules in relation to water and fire. Fire and water are the most sacred and pure symbols of this religion. Attempts to pollute it have been interpreted as inhuman and ungodly reality. "... The person who breaks his oath in the presence of water and burning fire will not be forgiven ... The punishment of the one who commits immorality near the pure water and burning fire is the worst of all the pains of this world". In this way water and fire rise to the level of purity of soul, purity of feeling, beauty of heart, and adornment of faith and hope. [12, p. 12].

We praise all the waters, we praise all the trees.

We worship all the good, heroic (and) beneficent Fravashis of the righteous (people).

We praise the waters, and the trees by (their special) names.

We worship the good, heroic (and) beneficent Fravashis of the righteous (people) with (their special) names. [13, p. 230]

According to Zoroastrian religion water and fire are "sacred" elements, water is considered as a source of prosperity and abundance. Humans, animals and plants need water for their survival. That is why special hymns were composed and sung to water, rivers and streams, rivers. In this way these elements were sanctified.

Most people use water simply for washing and rinsing. Zoroastrians first of all pay attention to the purity of water itself, which is one of the most sacred blessings of nature. Therefore, no unclean object or element should be allowed near a natural source of water - a river, lake, spring or well.

If there was a need to wash any dirty item, they prepared special water, but the item was not washed immediately with the water. Firstly, the item was disinfected with cow urine (because it contained ammonia), (this ritual was much older and was also common during the emergence of the Brahmins), then dried in sand or sunlight and only then washed with the water. [14, p. 55-56] One must keep oneself clean both in body and appearance.

Zoroaster's creative ideas encourage people to live in harmony, co-operation and tolerance towards each other, leaving a good name for themselves. This occurs through active ethical participation in life, ritual and the exercise of constructive/good thoughts, words and deeds. The Avesta promotes a just, merciful and noble attitude toward all, regardless of their origin, race, or creed. Ahura Mazda says: Those who want light for others will receive light. [15, p. 18]

In the teachings of Zoroaster, love for the Motherland is considered as the highest value. Zoroaster preaches: "If you sit with your family around the table, if the roof is strong, if there is a fire in the oven, that's the most precious thing on the Earth." The prophet emphasizes that a happy life is possible only through marriage and family life.

In the first part of Vendidad book, Ahura Mazda says the following to Sipiymon Zoroaster: "I am Ahura Mazda; I built every country, even if there were no good places for it." He explains: "Everyone thinks the country they grew up in is the best and most beautiful." Thus, it is concluded that if a person loves the Motherland where he grew up, he could be considered a patriot.

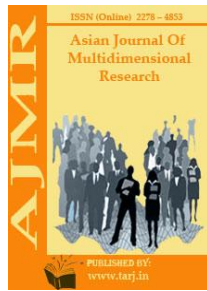
CONCLUSION

The main doctrine of Zoroastrianism, which has survived for three thousand years and reached the present days, defines its essence in the following way "gumantu-noble thought", "gutka - a kind word", "gvarshita - a noble deed". Zoroastrianism turned into a universal value in its time and it influenced on other religions and beliefs that emerged later. The existence and holistic manifestation of these three elements in man determines the essence and existence of Zoroastrianism. Scholars point out that Zoroastrianism is one of the oldest secular religions in human history. And at the same time, as a spiritual-enlightenment and moral power that stimulates the progress of mankind, it introduced its own norms of morality, spirituality and perfection into the way of living of the peoples of a very large area. Therefore, it became a powerful ideology that led to the culturing of the spiritual image of society, the spiritual and moral world of people and their practical behavior.

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ANALYSIS OF THE METHODOLOGICAL TOOLS USED IN THE STORIES OF ABDULLAH KHAKHHOR

Ubaydullaev Alisher Abdusalomovich*

*Candidate of Philological Sciences,
National University of Uzbekistan named after Mirzo Ulugbek
Tashkent, UZBEKISTAN
Email id: a.ubaydullayev@nuu.uz

ABSTRACT

This article discusses the use of stable compounds in the stories of Abdullah Khakhhor as well as the writer's artistic skills. It has also been studied that the lexical or grammatical modification of phrases, proverbs and sayings provided in the poet's works such peculiarities as playfulness, charm, expressiveness. Moreover, it has been studied the use of stable compounds by the writer which have figurative meaning and emotional color. It has also been studied issues such as the strengthening of the stylistic color of some phrases and proverbs, the occurrence of wise sayings "discovered" by the writer under the influence of folk proverbs and sayings.

KEYWORDS: *Aesthetic Function Of Language, Lingvopoetics, Stable Compounds, Phrases (Phraseologies), Phrases, Proverbs And Sayings, Wise Sayings (Aphorisms).*

INTRODUCTION

In the field of education and upbringing of students, the eternal task of fiction has been to develop them in the spirit of love for the Motherland, the spirit of self-sacrifice of the people for the country. As our President Sh.M.Mirziyoev noted: "Another important issue that always worries us is the morality, behavior, the worldview of our youth. Today the times are changing rapidly. Young people are the ones who feel these changes the most. May the youth meet the requirements of their time. But at the same time, they should not forget their identity. May the call of who we are and what a generation of great beings always resonate in their hearts and motivate them to remain true to themselves. How do we achieve this? We can achieve this through upbringing, upbringing and only upbringing"¹.

Conscious analysis of the language of a work of art allows a deeper understanding of the content of a particular work, its ideological essence, creative skills and ideological direction of the writer, forms the spiritual worldview of the younger generation by developing the skills to test their knowledge in practice independently, allows for personal observation about marriage,

people, and human relationships. When analyzing the language of works of art, especially classical works, the use of linguistic analysis in its place, whether in school, academic lyceum or university, is very effective. Since the main goal is to educate young people, first of all, a linguistic analysis of a particular work, whether it is a work of prose or poetry, is required.

In addition to cultivating respect for the spiritual and material world of Abdullah Qahhor's stories, it also plays an important role in cultivating the student's artistic taste and political views. Phraseological units are one of the important tools in the lexicon of the language of fiction, providing the imagery of this language, organizing its aesthetic impact. The study of phraseological units in Uzbek linguistics is associated with the name of Professor Shavkat Rakhmatullaev. The scholar describes phraseological units as follows: "A compound consisting of more than one lexical base is called a phrase (phraseological unit), which is a lexical compound that has a figurative meaning that is superior to the equivalent of a word"². Phraseological units require a special approach and study because they are a complex phenomenon that occurs in linguistics on the basis of the inherent contradiction and unity of the plan of expression with the plan of content.

The formation of Uzbek phraseology as a separate field dates back to 40-50 years of our century. Phraseology has been one of the most well-studied areas of Uzbek linguistics in the past. A certain part of the phraseology of the Uzbek language consists of works devoted to the study of the methodological features of phraseological units found in the language of the works of writers. Especially important are the scientific researches devoted to the study of semantic and methodological features of the phraseology of the works of Alisher Navoi, Abdulla Khodiri, Abdulla Khakhhor, Gafur Gulam, Said Akhmad, Zulfiya, Mirtemir, Aydin, Mukhimi, Kh. Olimjon³. In this regard, the linguist E. Begmatov said: "Phraseology of the vernacular, phraseology of Uzbek folklore, especially Uzbek dialectal phraseology has not yet been studied. Phraseological units are an integral part of the vocabulary of the Uzbek language, which is a means of artistic and aesthetic expression for the language"⁴.

We would like to make some comments on the features of the use of phraseology in the stories of Abdullah Qahhor. Writers and publicists not only make good use of existing ready-made phrases in the common language, but also create new ones based on them. In doing so, they use methods such as discovering new interpretations of the meaning of the common phrase, changing the lexical structure of the phrase, expanding its semantic and stylistic functions, adding new figurative meanings to the phrase. Oybek, Abdulla Khakhhor, Abdulla Khodiri, Gafur Gulam and many other talented writers skillfully and creatively used common phraseological expressions in their works. Our observations have shown that a number of phraseological expressions, especially folk proverbs and wise sayings, are found in the texts of Abdullah Qahhor's stories. In works of art and journalism, phraseology is used in the same way as in the vernacular, without change, and sometimes with some changes. A similar situation can be observed in the stories of the writer. For example: How long do you have to **leave the pot in the water** to find a bag of straw, ten to fifteen sticks, a car of reed grass – for house, and a bull? ("Thief")⁵.

The leader was sure about finding the bull, as if a bull would be found if he went outside. It's a "God damn" thing to do. Even the cat doesn't go out in the sun for free ("Thief").

On the eighth day, grandpa Khobil went to Amin again. Amin's hair stood on end ("Thief").

- It's very difficult for us now. If my forehead is not salty, ...- said the old man, looking at the ground ("Thief").

After two or three pushes on the side of his sister-wives, Unsin raised his head, **glanced at** the Dodho (the applicant officer), who was staring at him in disbelief, and bowed his head again, but gave a bold answer ("Horror").

He turned sharply, got into the carriage, and sat on the head of the deceased so as said: "Let my shoulder see this place now" ("Horror").

Abdugani boy was very sorry to hear his words, he said that he was ready to kick his wife if he could, and then asked .. ("Patient").

It was obvious how happy Akramjon was of sitting and enjoying Mastura with us as well as how he was worried about getting her tired ("A Thousand and One Souls").

After he left his mill and village, grandpa Haydar, as a head, married him a widow ("Grandpa Asror").

- Will you die if you show me one? You have made everyone's heart bleed! - said ("Grandpa Asror").

Grandpa Haidar wishing to calm him down a little said:

- Stop it, don't hurt her, she is half-hearted, -but Asrorqul became even angrier ("Grandpa Asror").

- Your friend is a disaster for me. He does not give me letters from Yodgor. Nor does he show to Abror; if the letter does not arrive, he does not say about it ("Grandpa Asror").

In fact, on such nights, anyone who remembers a graveyard, especially a person over the age of a prophet like Dodho (the applicant officer), who put his shroud in a box, will be sweated coldly to his tongue when he/her thinks of lying in the graveyard rather than dying ("Horror").

- Alright, alright! - Said Unsin in astonishment, - But you won't back down...

Dodho's (the applicant officer) breath caught in fear ("Horror").

Khodji aka had difficulty knowing where to look first ("A Thousand and One Souls").

... I wonder why this man is laughing when I look at him... his face turned gray. ("A Thousand and One Souls") and so on.

Some of the phrases cited are compounds that are widely used in the vernacular. Their use has given Abdullah Khakhhor's stories an artistic touch, conciseness, brevity. In particular, the fact that these phraseological compounds are the lexical norm of ordinary folk speech, brought the language of the work closer to the vernacular, further increased its effectiveness. In addition, these phrases show that Abdullah Khakhhor was well aware of the lexical riches of the vernacular and used them appropriately.

In language, too, each element has its own function, scope of meaning, laws of connection with other elements, units. A writer who is perfectly aware of these laws, who has a high artistic taste, intuition and skill, creates a unique image, unexpected artistic plates, as a result of which the reader becomes a captive not only of the writer's idea, but also of his beautiful language. In this case, the creator is the decisive tool of linguistic-artistic-aesthetic meanings, based on the

selection, sorting and polishing of the necessary compounds for the artistic image in the vernacular. The use of proverbs and sayings, which are the beauty of words, increases the vocabulary of every penman, makes his speech sharp and impressive, and polishes it artistically. In fiction, proverbs and sayings serve to figuratively express the meaning that the writer is trying to convey. Abdullah Khakhhor is one of the people and creators who used the word sparingly in his life and work, and took responsibility for its meaning. A writer is a creator who knows perfectly where to speak, how to write. That is why the interest in the works of the writer never dies. It can be seen that Abdullah Khakhhor skillfully used folk proverbs in his stories: *Heaven is far, earth is hard* (113). The author skillfully changed the proverb "Heaven is afar, earth is hard" and chose the word *far*, which means it, instead of the word *afar*. This can be explained as follows: "Heaven is afar, earth is hard" is said by people who are in a very difficult situation, in a state of despair. There are also such versions as "Heaven is faraway, earth is hard", "Heaven is far off, earth is hard"⁶.

Not in yourself - not in the universe. This phrase teaches that a person should prepare what he needs for his needs, not ask anyone for anything, and use what he has as much as possible, even if it is less and worse. The description of the relationship between Muniskhan and Saidi includes the following phrase: Let it be in my lamp as long as it is in my relative. Someone's copper pot is better than your own black pot (33). Such phrases also express the above meaning.

In addition to making full use of the richness of the national vocabulary in the works of Abdullah Qahhor, it can be observed that he also creatively used various figurative expressions and wise words in his speech. As the writer uses each proverb, saying, word, or phrase, he gives it a different form, taking into account its relevance to the event, the nature of the image, its worldview, its actions: "The death of a horse is a holiday of a dog", "What does a tail do in a plow without a ball?", "Meat can't be without bones", "If time doesn't look at you, look at the time", "The blind man loses his cane once", "Rabbits can't escape for a long time", "If you want to be a bakovul (partner) for a ready-made plov, you look ugly in everyone's eyes.", "The guest's honor is three days", "He was very thin, like a stick" and so on.

Many of the folk sayings found in Abdullah Qahhor's stories have served to ensure the character of the story's protagonists, as well as making the content of the story more vivid and interesting. For example: A dry spoon tears the mouth, how much money can you take to Amin? One more to give, ten less to receive; It turned out that one's waist is tested until he is called lord; All the old man's joints were loose, then he was paralyzed, but could he say anything in the grave? "Don't play with a statesman - he'll hit you with every chapter" ("Thief"). ... He put the teapot and the sandbag under his feet, threw aside his shawl, and said to himself, "Most is gone, but few is left" ("Horror"). A woman came and beat him with a piece of willow, slaughtered a chicken and bled... All this, of course, comes with money. At such times, the thick is elongated, thinly is cut ("Patient").

Writers not only use proverbs, phrases, and wise sayings appropriately and creatively as an artistic means of revealing the inner world of a character and giving his or her speech characteristics, but they also create new words of wisdom. For example, we can see the wise sayings of A. Khakhhor in the following examples: My father comforted my mother by swallowing the tears that were coming from time to time, that destiny is eternal, a person's life is a flood of kebabs ("Fairy tales from the past"). Drink it, my dear, you are scared... For those who are afraid in the cemetery, the soil of the cemetery will be a **cure**. Unsin immediately drank the muddy water from the bowl, which seemed to lighten a little ("Horror").

The old woman straightened the patient's disheveled hair, stroked his body, and then... sat down and cried. - The prayer of an innocent child in the morning will be answered, wake up your daughter! - she said ("Patient").

Sister ran inside. Mirrahimov asked about his health and mood, and then hinting that patience overcomes pain and it is necessary to learn from Mastura Aliyevain this regard ("A Thousand and One Souls").

A faint, no, not faint, sound came from the bed to the left of the large window:

- Come on... Thank you! Man to man will be power, thank you so much! Akramjon, puta chair... ("A Thousand and One Souls") and so on.

The wise sayings (aphorisms) created by Abdullah Khakhhor can be divided into the following groups:

1. About homeland and patriotism: If a thief breaks into your house, you do not put your son in a box and call your neighbor; The heart of the people cannot be touched from afar, it is necessary to get closer to it; He who says he will make the country prosperous will be prosperous himself; Leaving the country means entering the grave alive; Our land, which was taken over by an Uzbek farmer, has become a real golden soil.

2. About human dignity: Man is great everywhere... his greatness is reflected in his work, in his creativity; I do not believe that the human being expects death, that is, despair of the world; There are no bad humans. Someone is a stone, someone is a flower, both are good in their place; There are people whose whole country will mourn when they die, even if no one rejoices at birth.

3. About labor, science and profession: One novel can be created just to describe the qualities of every profession in the world, no matter how big or small it is; The peak that man aspires to is on the ground, not among the clouds, like a mountain peak; Cotton is white, it is grown by white-hearted people; May the power of the elephant and the zeal of the ant be in your body; The door, constantly being knocked, will be opened. Living in expectation of some divine power from the unseen is like relying on water; The hands of a man who has a fire in his heart will also be warm; Difficulty is the wheel of the mind, the wheel of zeal; A skilled person will never be hungry.

4. About honesty and greed: He who praises an official goes and praises him in his ear. Praises among people. It brings prestige to that official, and he makes money by crushing prestige; To tear off a person in distress is like removing the shroud of the dead; A magazine is a tablecloth that is written in front of readers, exposing the work of newspaper writers. So this tablecloth must be honest and clean; Benefit cash enters the ear faster than a non-cash word of truth; There is no greater crime than to destroy the good intentions of an honest man, to tie him to an unclean path, to the brink of ruin.

5. On etiquette and morality: As we fight for etiquette, the measures we take in this direction, must first and foremost be directed at defending the shame of our great guardian, the enemy, from attack; We often say, "The upbringing of our youth is deteriorating," while corrupt upbringing does not come down from heaven; The remnants of the past cannot continue without certain conditions; The carefully closed door repels a thousand disasters; We need to create a situation where the naughty person separates like oil on the surface of the water.

6. About truth and falsehood: There is no big or small lie in the literature. It's all equally damaging; Who can guarantee that a person who has lied once will not lie a second time - no one! Many words are needed to adorn the face of a lie. The truth is that makeup spoils her beauty; The truth is not forgotten until it dies, the lie is forgotten immediately; The best trick is accuracy; The more resistance there is to the truth, the deeper it takes place in people's hearts.

7. About happiness, kindness: The search for happiness on someone's doorstep is the beginning of unhappiness; The man who was born had to plant a man first; When a man enters the age of sixty, leaving a mark on his life, the mood of his youth, his zeal, will remain; If the house was happy, there would be no happier creature than a cow lying back in a hot tub; It is good that everything but life is short. There is no harm if life is a little longer; Mankind should not be jealous. He must be envious. He who desires will attain his goal.

In language, each element has its own function, scope of meaning, laws of connection with other elements, units. In this case, the writer is a tool for solving new linguistic-artistic-aesthetic meanings, based on the selection, sorting and polishing of the necessary units for the artistic image in the vernacular. The educational value and influence of a work of art, which combines the power of ideological, moral, spiritual-enlightenment, subtle influence in the education and upbringing of today's youth, is fully manifested only if the specific features are clear to the reader. For this, it is difficult to achieve the intended goal without a linguistic analysis of the language of the work of art. In this sense, the analysis of the language of works of art has both theoretical and practical significance, and it should be an important and integral network in the teaching of Uzbek language and literature. Because the study of fiction and literary language are inextricably linked, it is difficult to determine the ideological richness and artistic-aesthetic value of a work without analyzing the language, which is the first element of literature.

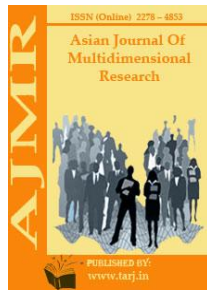
Abdullah Khakhhor, like other artists, used phraseological phrases, proverbs and wise sayings in his works. The skill of using these stable compounds has been creatively applied with the requirement of a specific methodology. The lexical or grammatical modification of the phrases provided features such as playfulness, expressiveness in the language of the stories. In the author's work, he used proverbs and wise sayings with figurative meaning and emotional color, and at the same time, the meaning of some proverbs and wise sayings was enriched and the meaning of some wise sayings was strengthened. There are also many wise sayings "discovered" by the author under the influence of folk proverbs and wise sayings. The wise words created by Abdullah Khakhhor and such stable compounds have increased the impact, melody and artistic and aesthetic weight of the work. As the writer uses each proverb, parable, wise saying or phrase and individual word, it can be observed that its relevance to that event served to ensure that the character of the story's protagonists, as well as the story's content, came out more vividly and interestingly. In short, the phrases, proverbs and aphorisms used in Abdullah Khakhhor's stories define the writer's unique skill and unique style. They have become a distinctive linguistic means of creative work. In the reworking of phrases and proverbs, in particular, the fact that some of the words and combinations created by the writer have the character of proverbs, shows how well the writer knows the vernacular, his goal is to bring the language of his works closer to the people.

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THE IMPLEMENTATION OF HUMAN INDICATOR REFORMS IN UZBEKISTAN

Turdiyev Bexruz Sobirovich*

*Doctor of Philosophy (PhD) in Philosophical Sciences,
Bukhara State University, Bukhara City, UZBEKISTAN

Email id: bekiuz0302@yahoo.com

ABSTRACT

The development of society, state and people will increase only when the study of human indicators in the development of a democratic society from a socio-philosophical point of view, socio-economic, political development in human development is closely linked with cultural and enlightenment. In the following article This article provides a socio-philosophical analysis of the strategic reforms implemented in Uzbekistan in the field of human development in Uzbekistan.

KEYWORDS: *Human Rights, Development, Policy, Strategy, Sdgs, Indicator, Society, Reforms, Initiatives.*

INTRODUCTION

Today, Uzbekistan has acceded to more than 70 international normative documents on the human factor and the realization of its rights, including 6 main UN treaties and 4 Optional Protocols. National reports on the implementation of these international instruments are regularly submitted to the UN Human Rights Council and treaty committees.

Over the past period, Uzbekistan has ratified important international human rights instruments. In particular, 4 conventions of the International Labor Organization, 3 treaties of the World Intellectual Property Organization and a number of other international documents have been ratified.

DISCUSSION AND RESULTS

In his Address to the Oliy Majlis on January 24, 2020, President of Uzbekistan Shavkat Mirziyoyev touched upon the development of human capital, paying special attention to the following aspects:

First, to improve the welfare of the population and improve its social protection. “According to statistics released by the world community today, more than 800 million people in the world live

in extreme poverty and are unable to meet their basic needs” [1]. Many of them have virtually no access to health, education, water resources, and sanitation.

Today, in Uzbekistan, the rural population, which does not have an adequate source of income and is low-income, makes up about 12-15% and covers 4-5 million of the country’s population [2]. In order to reduce the rates of poverty in the country, it is seen not only through pensions and financial assistance, but also as a way to solve these problems by creating greater opportunities for entrepreneurship in remote areas of the republic, creating new jobs.

In this regard, in order to provide social support to the population of the country in 2017-2020, more than 40 decrees and resolutions of the President of Uzbekistan Shavkat Mirziyoyev on social assistance were adopted. Among them is the adoption of the Resolution of the President of the Republic of Uzbekistan dated March 26, 2020 No PP-4653 “On the organization of the Ministry of Economic Development and Poverty Reduction of the Republic of Uzbekistan and its system organizations” [3] and Decree of the President of the Republic of Uzbekistan dated March 26, 2020 “On measures to radically update the state policy on economic development and poverty reduction” [4]

In addition, in connection with the implementation of the UN Sustainable Development Goals in Uzbekistan, the development of the Poverty Reduction Program, which is a priority area of social development on the basis of the state program for the implementation of the Strategy Actions for 2017-2021, as well as the adoption of the task is urgent due to post pandemic tendencies in the world which is rapidly change.

Second, the health care system in the country and issues of improving its quality. The urgent tasks in this area are the 3-goal of the SDGs, which is in harmony with the goals of ensuring health and well-being, an indicator of ensuring a healthy lifestyle and contributing to the well-being of a person of all ages.

According to research, the number of deaths among children under the age of five in the world today has dropped from 12.7 million to 6.3 million. That is, in 2013, 17,000 fewer children died every day than in 1990. Since 1990, maternal mortality has dropped by almost half [5]. However, despite the increase in public health and well-being in recent years, there are still shortcomings in the use of health services. It is noteworthy that SDG’s promotion of a healthy lifestyle and the well-being of people is an important goal in the development of society.

Today in Uzbekistan, the priorities of increasing the role and prestige of doctors in social life, their financial support and improving working conditions are becoming increasingly important. In particular, the provision of state medical institutions and the population with medicines by President Shavkat Mirziyoyev is 1.3 times more than in 2018, or about 1.5 trillion soums. It is also planned to spend 1.1 trillion soums from the state budget for the construction and repair of 281 medical institutions in the country, and then to introduce modern management mechanisms in the management of 17 specialized scientific and practical medical institutions. Several modern medical centers are being built in the Republic of Uzbekistan including in the regions and districts.

In the implementation of these reforms, the law “On compulsory medical insurance” adopted in 2019 covers such tasks as the adoption and implementation of an online monitoring system for the Real cost of medicines.

Third, reforms to support women and youth in the republic in 2020. This task is consistent with SDG's Goal 5. Today, nearly two-thirds of developing countries have achieved gender equality in primary education. Today, in the process of education and work of men and women together, it is the basis for building mutual respect and a spiritually healthy relationship in society.

However, even today, the equality of men and women is denied in the world, leading to stagnation in social development through unfounded heresies, unhealthy attitudes and opinions. "According to 2014 statistics, 143 countries in the world have guaranteed equal rights for women and men in their constitutions, but 52 countries have not yet included it in their constitutions" [6].

Although gender equality is being pursued by countries around the world today, the problem of gender, i.e. gender inequality, persists. This inequality can be observed in the processes of participation in education, wages, life expectancy, power and governance.

In accordance with the plan for 2020 in Uzbekistan, in order to provide preferential loans of 5.5 thousand women for the implementation of small business projects in the amount of 100 billion soums, and in order to allocate new housing to 1 thousand 576 women, initial payment from the state budget has been established. In order to increase the economic literacy of women in need of social assistance, large-scale reforms have been implemented in the Women's Entrepreneurship Centers, such as short-term training courses within the framework of 5 important initiatives.

In this regard, an "Iron book" has been created in Uzbekistan to provide financial support to the population. Also, at the proposal of President Shavkat Mirziyoyev in a video conference on October 8, 2020, it is planned to create a "Youth Registry" and "Women's Registry" in order to provide social, material and psychological assistance to women and youth in society, to direct them to education and profession.

The Decree of the President of the Republic of Uzbekistan No. PF-6017 of June 30, 2020 "On measures to radically reform the state youth policy in the Republic of Uzbekistan and bring it to a new level" and the establishment of a new body on the basis of the Youth Union - the Agency for Youth Affairs - on the basis of the Resolution of the President of the Republic of Uzbekistan dated June 30, 2020 No PP-4768 "On the organization of the Agency for Youth Affairs of the Republic of Uzbekistan" confirms that these reforms are implemented in practice.

The Agency has been transferred to the structure of the Institute for the Study of Youth Problems and Training of Prospective Personnel, established in 2017 under the Academy of Public Administration under the President of the Republic of Uzbekistan. The main activity of the Agency is a state institution with the status of a legal entity, aimed at studying the problems of youth, conducting scientific and analytical research in this area, as well as retraining and advanced training of promising young professionals.

Today, Uzbekistan pays special attention to youth issues, as evidenced by the Samarkand Forum on Human Rights "Youth 2020: Global Solidarity, Sustainable Development and Human Rights" held on August 12-13, 2020. The forum discussed a draft international convention on the rights of youth at the UN level, covering topical issues of promoting the rights of youth.

It is also important to show the trends and results of the state youth policy in Uzbekistan to the world community at the Samarkand Forum "Youth 2020: Global Solidarity, Sustainable Development and Human Rights" on August 12-13, 2020.

Fourth, to decide on a healthy lifestyle among the population of the republic. For this purpose, 269 football, volleyball, basketball and badminton courts, 178 boxing, wrestling, fitness and gymnastics gyms, 32 tennis courts worth almost 500 billion soums are being implemented to attract the younger generation to mass sports in the country.

Practical confirmation of these reforms can be seen in the adoption of the laws on the establishment of the “Order of Health” and the “Medal of Healthy Life”, signed by the President of the Republic of Uzbekistan Shavkat Mirziyoyev on May 26, 2020.

The Order of Health is of two levels, the first of which is awarded to citizens of the Republic of Uzbekistan and foreign citizens who have made a worthy contribution to the development of medicine in the country, its development in accordance with modern requirements and supporting public health. In addition, the Order of Health of the 2nd degree will be awarded to citizens of the Republic of Uzbekistan and foreign citizens who have actively participated in the protection of public health, prevention and elimination of various diseases.

The “Medal of Healthy Life” is intended to promote a healthy lifestyle in the country, to promote the rules of personal hygiene, to make sports and physical education a part of their daily lives, and to recognize the services of citizens as a personal example to the public.

It is also a bright manifestation of Uzbekistan’s support for a healthy lifestyle in the world, based on the hosting of the IV Asian Youth Games in 2025 by the cities of Tashkent and Samarkand.

Fifth, the issue of protecting the environment and improving the ecological situation. President of Uzbekistan Shavkat Mirziyoyev plans to continue work to prevent the consequences of the Aral Sea tragedy, expand afforestation in its arid part, and establish “green belts” in Nukus, Urgench and Khiva. Today in Uzbekistan the development of the draft Ecological Code is an important issue in maintaining the cleanliness of the environment, ensuring the legal framework for environmental sustainability.

Sixth, special attention should be paid to cultural and art institutions, strengthening their material and technical base. It is planned to build and reconstruct theaters and cultural facilities serving human development and its rise, including 22 theater and cultural facilities in the Republic by the state budget, to establish 20 cultural centers and parks.

Based on the tasks set out in the Strategy Actions for the five priority areas of development of the Republic of Uzbekistan for 2017-2021, attention is paid to increasing the role of cinema in instilling in the minds of Uzbek youth respect for national and universal values, love for the motherland. In our opinion, the recent economic concepts are generally meaningful have a different meaning. The most important of factor for achieving the high levels of human indicator is employment. The human indicators are related with the modern processes of reforms. The concept of human development has not lost its relevance even today, clearly age or not clearly defined by any other criteria. In terms of the number of employees of any enterprise, their number who have the ability and right to work in a broad sense, and on their own the ability of a country to produce any consumption value we can understand the total population.

In addition, there is no doubt that the promotion of cultural heritage and the formation of a sense of respect for it in the hearts of young people will contribute to the rise of the human criterion on the basis of the establishment of the second international status festival in the city of Shahrisabz, the celebration of 145-year-old birthday of enlightened

The practical confirmation of these reforms was announced on the basis of the decree of the president of the Republic of Uzbekistan Shavkat Mirziyoyev “On measures to further increase the role and influence of the culture and art sphere in the life of society” dated April 15, 2020 in the country “Day of culture and Art Workers of the Republic of Uzbekistan”.

In addition, the Uzbek National Institute of Musical Arts named after Yunus Rajabi and the Research Institute of Cultural Heritage in the form of a state institution have been established in the country. In particular, the Republican Specialized Music Academic Lyceums named after V.Uspensky and R.Glier were transformed into the Republican Specialized Music Schools named after V.Uspensky and R.Glier, respectively. The reorganization and reestablishment of the State Dance Ensemble “Bahor” named after Mukarrama Turgunbaeva under the Ministry of Culture on the basis of the decree of President Shavkat Mirziyoyev on February 4, 2020 “On measures to further develop the art of national dance” is also an important news in the cultural life of the country [7].

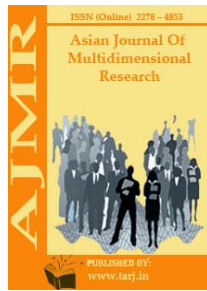
CONCLUSION

In short, the greatest wealth of Uzbekistan today is the human factor. At the heart of the large-scale strategic reforms being carried out in the country, the priority is to improve the living standards of the population, to ensure the well-being of each of our compatriots, to create all conditions for their happy life. The pace of strategic reforms in the country is mobilizing this goal to become a reality.

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ISSUES OF GENDER EQUALITY IN UZBEKISTAN: STRATEGY OF REFORMS

Turdiyev Bexruz Sobirovich*

*Doctor of Philosophy (PhD) in Philosophy Sciences,
Bukhara State University,
Bukhara, UZBEKISTAN

Email id: bekhruz0302@gmail.com

ABSTRACT

Today, it is becoming increasingly clear that gender equality is important in social relations, which are important for the development of society. As a result of special attention paid to increasing the participation of women in society, especially in society, there are great changes in both social relations and legislation. This article is devoted to the issue of women's equality in Uzbekistan, which analyzes the ongoing reforms in the field of gender equality in the country, the normative legal acts adopted in this regard, and the existing problems in the field of gender equality in the world.

KEYWORDS: Gender Equality, Society, Policy, Strategy, UN, Goal, Indicators, Constitution, Protection, Reforms.

INTRODUCTION

Today, under the motto "New Uzbekistan - New Worldview", comprehensive reforms, changes and innovations are being carried out in all spheres of our country, in the process of which the role of women in society and the family is growing. In the words of President Shavkat Mirziyoyev, "In recent years, the rights and interests of women, gender equality, protection of family, motherhood and childhood, development of entrepreneurship among women, creation of new jobs for them in our country, improving working and living conditions has become a priority of public policy" [1].

In the process of implementing the priorities and tasks of the Strategy of Actions, the role of women in Uzbekistan in labor, cultural and spiritual spheres, in public life has become more

relevant, the responsibility of Uzbek women in all spheres of society has increased and actively involved in governmental and non-governmental organizations.

DISCUSSION

In fact, the term “gender” is an English word, and “gender” means “breed”. This concept represents human behavior in society, that is, the creation of equal, responsible opportunities, values, and results for women, men, girls, boys.

This means that gender equality applies not only to women, but also to the rights and responsibilities of men. In a broad sense, gender equality reflects the diversity of women and men, reflecting the different interests, needs, rights and responsibilities of women and men.

In the current process of integration, ensuring equality between women and men in the establishment of social equality, stability and peace is one of the most important issues, and finding solutions to them is in the focus of international organizations. In particular, the UN General Assembly adopted Resolution 70/1 “Changing our world. The Agenda for Sustainable Development until 2030” (SDG) was adopted, which includes 17 comprehensive goals and 169 tasks [2].

Goal 5 of the SDG is dedicated to the issue of “Ensuring Gender Equality and Empowering All Women and Girls”, which deprives women and girls of basic rights and opportunities and does not exist in a prosperous society without addressing them. To address the problem of inequality, and to achieve this goal, it is necessary to implement measures for equality between women and men, including education, employment and the elimination of all forms of discrimination.

In the politics of the world, it is hoped that these goals will be achieved by 2030 and will serve human development. Uzbekistan is not excluded from these global processes. In particular, on September 25, 2015, our country joined the international agreement “Sustainable Development Goals” with 193 countries [3].

Accordingly, the following national tasks have been set in Uzbekistan for the implementation of Goal 5 of the SDGs:

- Eliminate all forms of discrimination against all women everywhere;
- End all forms of violence against women, including human trafficking, sexual exploitation and other forms of exploitation;
- Early marriages and ending forced marriages;
- Recognition and appreciation of unpaid work in care and housekeeping through the provision of utilities, infrastructure and social protection systems, encouraging the principle of general responsibility for family farming, taking into account national conditions;
- Ensuring equal participation of women in all spheres of political, economic and social life and equal opportunities for leadership in decision-making;
- Ensuring universal access to health services for the provision of comprehensive health care in the field of reproductive health;
- Expand programs to support women in realizing their rights and interests in the socio-economic sphere;

- More active use of high-performance technologies, in particular information and communication technologies, to promote women's empowerment;
- Full integration of the principles of gender equality in the process of adopting government programs at different stages of governance [4].

Unfortunately, despite the efforts of countries around the world to achieve gender equality, the problem of gender inequality persists. This inequality can be seen in the processes of education, wages, life expectancy, and participation in government and governance.

In particular, the equality of men and women is still denied in the world today, leading to stagnation in social development through unfounded heresies, unhealthy attitudes and opinions. "According to 2014 statistics, 143 countries in the world have guaranteed equal rights for women and men in their constitutions, but 52 countries have not yet included it in their constitutions" [5].

This means that the protection of women's rights in the world, the elimination of all forms of discrimination against women, the strengthening of their role in society and their active participation in the ongoing reforms must become a priority for all countries.

According to Q.H. Abdurahmanov, today the global inequality of gender equality can be seen in the following factors:

Women make up more than 50 percent of the world's population, but they own only 1 percent of the world's property;

- Two-thirds of the world's work is done by women, but they account for one-tenth of the world's profits;
- The majority of the illiterate and unemployed - more than 60 percent - are women;
- One in three women in the world has been abused at least once in her life, often by her husband;
- 20 percent of all parliamentarians in the world are women;
- Women do most of the unpaid housework;
- Women make up the majority of low-wage employment in health and education, while men make up the majority in the high-wage economy's transport, communications, and information and communication technology sectors [6].

The Strategy of Actions in Uzbekistan is aimed at protecting the social and political rights of women, taking into account their aspirations: Law of the Republic of Uzbekistan dated September 2, 2019 "On protection of women from oppression and violence", Decree of the President Shavkat Mirziyoyev dated February 2, 2018 "On measures to radically improve the activities in the field of support of women and strengthening the institution of the family", Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated March 14, 2018 "On the organization of the Public Fund for Women and Family Support", Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated November 11, 2019 "On measures to further improve the system of employment of women and the development of entrepreneurship among them" and Presidential Decrees of February 18, 2020 "On measures to improve the socio-spiritual environment in society, further support the institution of the community and bring the

system of work with families and women to a new level". Such normative and legal acts are a vivid expression of the state's attention to women and women in the country.

It should be noted that the adopted normative documents and practical measures are an important step in the field of gender policy in Uzbekistan and fully comply with international norms and standards of law and practice, some of which are based on the recommendations of UN human rights bodies. Significant changes have taken place in the field of monitoring and evaluating the effectiveness of gender policy by introducing an additional 54 gender indicators on the website www.gender.stat.uz [7].

RESULTS

In recent years, work has been done to ensure gender equality and increase the role of women in social and political life in several areas:

- Improving women's rights legislation;
- Improving the institutional framework for the protection of women;
- Raising public awareness of gender equality and women's rights;
- To train officials responsible for enforcing the law in accordance with applicable law.

At the same time, it is necessary to carry out continuous and consistent work in this direction. Not only the guidelines adopted, but also their compliance with international obligations and standards, as well as their timely and accurate implementation on the ground, are important here.

CONCLUSION

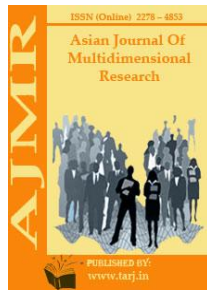
In turn, the UN team in Uzbekistan will continue to provide comprehensive assistance to the country to ensure gender equality under the Sustainable Development Cooperation Program for 2021-2025, which is currently being developed in consultation with all national partners and other stakeholders.

In short, the strategic reforms taking place in today's new Uzbekistan are helping our women to take an active part in the development process in all spheres of Uzbek society and keep pace with the times.

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A QUESTION ABOUT PRONOUNS IN A KOREAN SENTENCE

Malika Mukhiddinova*

*Teacher,
Tashkent State University of Oriental Studies,
Tashkent, UZBEKISTAN

ABSTRACT

This article presents the issues of speech activity and communication. In studies of speech activity, it was found that almost every speech utterance contains speech phenomena that are not provided neither with the language system, nor with the norm of the language or with the usage. In this article sentences of motivation in the Korean language are considered, as well as forms of imperative and inviting inclination which are added to motivational sentences. This fact makes the syntax science solve the actual problems of communication and cognition. The question of the sentence and its structure, peculiarities of the syntax connection have various solutions in the researches of the contemporary Korean language. The reason is that in syntax analyzing theoretical question is connected mostly with the research of simple and complicated sentence, defining the methods of interaction of different parts of sentence.

KEYWORDS: *Speech Activity, Communication, Speech Act, Normalization, Korean Language.*

INTRODUCTION

As you know, the formation and functioning of numerous etiquette means of communication in monologic and dialogical genres that implement social and political communication requires theoretical research and the development of practical recommendations to activate the process of successful social and political communication.

This article examines the specifics of the Korean language and its communication skills. Linguists have determined that personal pronouns in Korean have several forms, which are used depending on who is being addressed, what is his social and social status and age. It is quite obvious that the age difference strongly influences the choice of personal pronouns and personal expressions. However, it was social relationships that had a greater impact than the age difference. When social relationships did not have a significant impact, for example, in private conversation, age differences were still most influential. Modern linguistics is facing not only the future. Many of its ideological ties are associated with traditional linguistics, since it

concentrates the scientific energy of linguistic ideas of previous eras, the energy that stimulates the search for new approaches to language. Korean foreign (Russian-speaking) linguistics has been actively developing since the beginning of the 20th century and is represented by the works of E.D. Polivanov, A.A., Kholodovich, Yu.N. Mazur, L.R. Kontsevich and others. For the first time in 1925-1930, E.D. Polivanov in his article talks about the relationship of the Korean language with the languages of the Altai family.¹ scientific studies have shown that issues in Korean linguistics are dealt with in different ways. Of great importance are the scientific studies of Korean scientists Seo Jung Soo, Nam Ki Sim, Guo Young Geun, Kwon Jia Il, Park Young Song, Yom Song Mo [서정수 1996: 50-69]. System descriptions of the grammatical structure of the modern Korean language are reflected in the works of A.A. Kholodovich, G. Ramstedt, Yu.N. Mazur, L.B. Nikolsky, L.R. Kontsevich, S.E.

During the formation of the Korean grammar tradition, the role of universal grammars was quite deep: undoubtedly, the problem of terminological adequacy as a completely required analysis². The transitional stage from universalism to the description of the idiomatic nature of Korean grammar is reflected in the writings of Yu Gil Zhong and Kim GyuSik, who managed to illuminate the interaction of the principles of universalism and idiomaticity in grammatical theories.

In the 20th century, as in world linguistics, Korean linguistics affirms the tendency to use "objective" methods of language research, which require to exclude as much as possible the imposition of categories alien to it borrowed from other sciences (schools of linguistic structuralism). In addition, the principles of mathematical thinking (mathematical linguistics, linguistic statistics, computer / computational linguistics, machine translation, etc.) are being introduced. Recently, more and more prominent place in modern Korean linguistics is occupied by such linguistic objects as linguistic activity and products of linguistic activity, especially communicative linguistics. However, communication and speech activity, becoming objects of study in linguistics, put forward a number of tasks that need to be addressed. These are issues of speech activity not in a narrow understanding (psycholinguistic), but in a broad sense: linguistic means in the processes of generating speech and its understanding in discourse and text. This position can be expressed by the formula presented by us:

Speech activity = language (norm) + speech.

Language is presented as a system and as a norm. The language system defines the language material of the system - the grammar of the language (rules for the compatibility of elements). The grammar of the language, in turn, includes the means and rules of communication.

The speech includes the usage and the actual speech, where language material and speech acts (communication processes) are considered - speech material (texts). The end result is real conversion.

Language in this correlation of the components of speech activity is a knowledge of the system of means and rules of speech thinking (think speak and understand) fixed in the linguistic consciousness. Paraphrasing E. Coseriu³, we can say that language is an ideal system of means of language elements (units) and the corresponding classes of language elements (units) that provide the potential for speech-interpretation acts: the norm is what and how to or should be said; and speech is the realization, actualization of the potential capabilities of the language system in the process of communication (real communication, speech acts and texts as products of speech thinking).

Since real communication may differ from customary ways of speak, as they usually say, between the norm and the speech act (text) an intermediate link is distinguished - the usage (a kind of generalization of specific speech acts and texts, an unconscious and uncodified norm). When speech is perceived, the selected links (language - norm - usage - speech) correspond to the scheme "an ideal system of means, realizing the ability to understand the message - how to understand - how nice to understand - the real perception of the message."

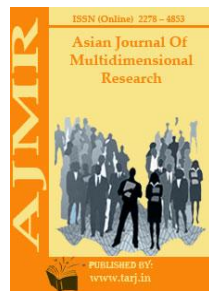
All components of speech thinking are in certain relationships: the system and the norm belong to the language, the usage and the actual speech acts - speech; norm and usage are brought together by their "normalization". The norm consists of speech models adopted and traditionally used in the corresponding ethnolinguistic collective (such a definition of the norm is close to the definition of a language by A. Gardiner⁴). Indeed, a norm as a set of rules for the implementation of a language system and a system of such rules turns out to be connected with both the language and the external conditions for the generation of speech. In this sense, the norm "serves as a filter that distributes the capabilities of the system (while providing some choice within limited limits) for specific speech acts depending on specific (typical) situations." In other words, the norm governs the use of elements, structures, models of both the language system and the speech system. In that regard, it acts as part of the system.

One of the most common forms of information transfer is verbal communication. This form of transferring information is carried out in the form of texts. Text is a universal tool that can be used both in mass communication systems (text in a newspaper or on television, etc.), and in interpersonal (texts exchanged between communicants). Of great importance for the communicative approach is the introduction to linguistic research of the communicative situation, i.e. set of factors determining the possibility and nature of a communicative act. On the one hand, the communicative situation is always concrete, unique, on the other hand, it is reducible to a certain number of invariants. The structure of the communicative situation includes, according to L. Sakharny, 1) the speaker, 2) what is being said (the subject of communication), 3) the listener, 4) the code (language), 5) the text (implementation of the code), 6) general conditions communication. Communication is influenced by: 1) the setting of the participants in communication, 2) the nature and purpose of communication, 3) the social roles of communicants, 4) the community of knowledge about the world and language, which awaken in the listener about the same range of ideas that are related to the subject of communication, etc.

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A STUDY OF ULTRASOUND EXAMINATION IN THE PREVENTION OF COMPLICATIONS OF OPERATIONS ON THE BILIARY TRACT

Akhmedov F.Kh*; Khamdamova M. T**

^{1,2}Bukhara State Medical Institute named after Abu Ali Ibn Sino, Bukhara,
Republic of UZBEKISTAN

ABSTRACT

The analysis of the results of ultrasound examinations of patients with acute cholecystitis allowed us to conclude that this method is an important diagnostic measure, with the help of which it is possible not only to improve the diagnosis of cholecystitis, to determine the choice of the method of cholecystectomy, but also to provide for the development of complications during its implementation.

KEYWORDS: Gallbladder, Ultrasound Examination, Cholecystitis, Laparoscopy.

INTRODUCTION

The increase in the incidence of cholelithiasis is primarily associated with an increase in the average life expectancy, an increase in the number of elderly and senile patients and an increase in the welfare of the population [1,3,5,6]. Due to the growing number of patients with cholecystitis, the number of operations has increased dramatically in recent years, not only in large surgical clinics, but also in regional hospitals. From the point of view of physical, emotional, psychological and social functioning of patients, laparoscopic cholecystectomy (LCE) is superior to traditional. In laparoscopic cholecystectomies, the costs are compensated by reducing the time of patients' stay in hospitals and rehabilitation, reducing the volume of medications and reducing the output of disability and mortality [2,4,7].

Ultrasound is an elastic vibration of particles of a material medium with a frequency of more than 20 kHz, i.e. above the threshold perceived by the human ear. Modern ultrasound equipment is based on the principle of echo location, and all diagnostic devices operate in pulse mode. It is important to know that in the radiation mode, the sensor of the device works only 0,1% of the cycle time, whereas in the reception mode – 99,9% [1,3]. Such a rhythm of work is one of the factors that determine the safety of ultrasound examinations. Echography is not associated with ionizing radiation, which distinguishes it from, for example, computed tomography and puts it in the category of harmless techniques (echography is allowed to be used during pregnancy due to the absence of a possible damaging effect on the fetus), [1,6].

The widespread introduction of laparoscopic technologies in the surgical practice of acute cholecystitis has led to an increase in various complications. The literature data and our observations indicate that errors made at the diagnostic stage create not only difficulties in choosing the method of cholecystectomy, but also lead to the occurrence and development of complications. Failure to recognize such a danger at the diagnostic stage leads to an incorrect choice of the operation method, and performing laparoscopic cholecystectomy (LCE) "at any cost" causes serious errors, followed by complications. In the structure of patients with acute abdomen, acute cholecystitis occupies the second place after acute appendicitis, acquiring the significance of a socio-economic problem [3, 4,7].

The aim of the study was to improve the results of mini-invasive surgical interventions in acute cholecystitis using sonographic studies.

MATERIALS AND METHODS

Giving a key place in the preoperative diagnosis to ultrasound examination (ultrasound), which gives not only the possibility of determining the main etiological factors of acute cholecystitis, but also the objectivity of the degree of severity of inflammatory changes in the gallbladder wall and paravesical space. The results of 235 ultrasound examinations of patients with acute cholecystitis, the course of which was complicated by paravesical infiltration, were analyzed.

RESULTS

We carried out the comparative analysis of results of laparoscopic and traditional cholecystectomy. Complications in a basic group: empyema (10, 2%), edema of a gall bladder (7,8%), paravesical infiltrate (4,5%), phlegmon of a gall bladder (2,8%), and in control group: local peritonitis — 12%; empyema of a gall bladder — 11,1% and an edema of a gall bladder — 6,8%. Duration of a laparoscopic cholecystectomy was averaged by 42, 3±3, 2 minutes. Intraoperative complications: bleeding from a vesical artery and a bubble bed (2, 73%), a trauma of the choledochus (0, 27%) and in 1 one case damage of a duodenum.

The average percentage of conversion was (5, 7%). Conversion reasons: existence of the inflammatory infiltrate in a neck of a gall bladder (28,9%), extensive adherent process in an abdominal cavity (20,5%) and bleeding from a vesical artery and a bed of a gall bladder (19,3%), technical difficulties, a choledocholithiasis and fistula of choledochus-bladder.

Postoperative complications: wound suppuration, expiration of bile, bleeding, pancreatitis. Lethality: at a laparoscopic cholecystectomy — 3 (0, 21%), at traditional — 2 (0, 65%).

The most characteristic ultrasound picture for paravesical changes is the presence of a zone of increased echogenicity, doubling and indistinctness of contours, thickening of the gallbladder wall. In addition, poor visualization of the neck of the gallbladder, shortening of the visible part of the choledochus, "a symptom of a continuous acoustic shadow" also indicate pronounced changes in the paravesical space.

Depending on the density and prevalence of paravesical infiltrate, which creates the greatest danger of performing LHE, we identified three types of paravesical infiltrate that affect the choice of the method of surgical aid. The first type is a loose infiltrate, the second type is a dense infiltrate, the third type is characterized by a more pronounced density with hyperechoic inclusions in the form of small bands of 0,5-1 cm in size, located in the projection of the gallbladder and the liver gate.

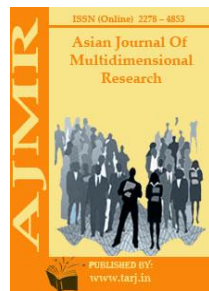
The revealed ultrasound changes allowed us to optimize not only the diagnostic process in acute cholecystitis, but also to justify the choice of the method of surgical intervention.

CONCLUSIONS

1. The analysis of the results of ultrasound examinations of patients with acute cholecystitis allowed us to conclude that this method is an important diagnostic measure, with the help of which it is possible not only to improve the diagnosis of cholecystitis, to determine the choice of the method of cholecystectomy, but also to provide for the development of complications during its implementation.
2. Paravesical infiltrate in acute cholecystitis not only creates difficulties in performing laparoscopic cholecystectomy, but also conceals the dangers of its implementation.
3. Ultrasound examination in complicated acute cholecystitis allows you to determine the choice of the method of cholecystectomy, thereby reducing the frequency of complications.

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A STUDY OF MORPHOMETRIC FEATURES OF ANTHROPOMETRIC PARAMETERS OF ADOLESCENTS LIVING IN THE CITY OF BUKHARA ENGAGED IN ATHLETICS

Hikmatova M. F*; Khamdamova M.T**

^{1,2}Bukhara State Medical Institute named after Abu Ali Ibn Sina,
UZBEKISTAN

ABSTRACT

Studies were conducted to study the anthropometric indicators of the body of children engaged in gymnastics, as well as the functional capabilities of the cardiovascular system of children aged 10-16 years living in the city of Bukhara. The assessment was carried out using centile tables with the determination of the harmony of physical development.

KEYWORDS: *anthropometric studies, gymnastics, bone, blood pressure, cardiovascular system.*

INTRODUCTION

It is well known that one of the direct indicators of health, most reflecting the balance of the body with the environment, is physical development. The close connection between the state of health and physical development is especially pronounced during the school period, which determines the relevance of studying the pace of physical development. With prolonged exposure to negative factors, such as poor nutrition, physical inactivity, pronounced intensification of the educational process, which is expressed in an increase in the volume and complexity of the educational material and the number of lessons per day, leads primarily to disharmonious physical development, and thus to a decrease in the number of absolutely healthy children.

In this regard, the purpose of this work was to study the anthropometric indicators of the body of children engaged in gymnastics, as well as the functional capabilities of the cardiovascular system (CCC) of children aged 10-16 years living in the city of Bukhara. The assessment was carried out using centile tables with the determination of the harmony of physical development.

MATERIALS AND METHODS OF RESEARCH

The research was conducted on the basis of the Bukhara school, which included 92 students aged 10-16 years engaged in gymnastics, including 48 girls and 44 boys. The survey was conducted in

the first half of the day, since during this period the studied indicators are most stable during the day. At the time of the study, the children were practically healthy. The physical development of schoolchildren was assessed according to the following criteria: body weight, body length, chest circumference (OGC), blood pressure (BP) and heart rate (HR). Further, the obtained data were analyzed and compared with the normative indicators, which are given in centile scales [1,3,5,6]. The measurement of total body size was carried out according to the generally accepted anthropometric method: body weight was determined using medical scales, a wooden height meter was used to measure body length, the chest circumference was measured using a centimeter tape. Blood pressure and heart rate were measured using an automatic tonometer, at rest on the right hand in a sitting position.

The assessment of physical development indicators was carried out according to centile scales, which is currently considered the most optimal and generally accepted way to assess physical development. Centile scales are a description of the frequency fractions of the distribution of the range of variation of features, absolutely independent of the mathematical distribution. Accordingly, these scales are more universal. They are convenient for mass preventive examinations of children, for identifying groups with "borderline" values and possible pathological deviations of signs. According to these scales, the values characteristic of half of healthy children of this sex and age are taken as the norm - in the intervals of 25-50-75 cents. The attention groups, that is, with borderline states, include children who fit into the range of 3-10 th centiles and 90-97 th centiles, and the group that requires additional examination, since this is a reflection of an obvious pathology-children with signs that go beyond the 3rd and 97th centiles. For a more complete description of the assessment of physical development, its integral assessment - harmony is used.

The conclusion about the harmony of the child's development is given based on the results of anthropometric measurements and the corresponding centile corridors in the centile tables: harmonious with a lag behind the age standards, if the data of the examined child are within 3-10 centiles; harmonious and age-appropriate, if all anthropometric indicators are within 25-75 centiles; harmonious with an advance of age, if the results obtained correspond to 90-97 centiles.

The results of our research have shown that the body length of boys who are engaged in gymnastics for 10 years exceeds similar indicators. Whereas at the age of 11, these indicators fully correspond to the parameters. At the age of 12 and 13, there is a jump in growth, about a year later than in girls. Most likely, this is due to the earlier entry of girls into the puberty period. At the age of 14, 15 and 16, the body length is within the normative limit. Our studies on the body weight of boys have shown that at the age of 10, 13, 14 and years, they have a steady increase in weight, again, as in girls, this is mainly due to an increase in the mass of adipose tissue. However, this is observed in boys 2 times more often than in girls, which is also confirmed by previous studies [1,2,4]. At the age of 13, there is a significant increase in the size of the chest circumference, but it still fits into the normative boundary. Apparently, this is due to the entry into the puberty period. Boys of 10, 11, 12 and 13 years have normal indicators of the size of the OGC, and at 14 and 16 years there is a tendency to outstrip the age norm.

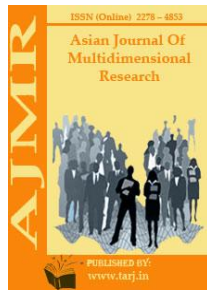
It is known that the intensity of the educational load is one of the factors that determine the functional state of the CCC of schoolchildren, which is a universal indicator of the adaptive capabilities of the body [2,3]. Our comparative analysis of heart rate revealed that in a larger number of surveyed middle and high school students, this parameter was significantly higher than the proper indicator. A significant increase in heart rate in girls is observed at the age of 11,

during the beginning of puberty. In boys engaged in gymnastics, this indicator is significantly higher than the norm is reflected in 13, 14 and 15 years. The study of blood pressure indicators revealed that the level of actually measured systolic and diastolic blood pressure is significantly higher than the proper indicator in most age groups. 58.2% of boys and 51.9% of girls had normal blood pressure. However, this trend is more evident during puberty. An increase in blood pressure at this time is considered as a physiological reaction aimed at maintaining blood supply at an optimal level with a rapid increase in height and body weight [1, 2,7]. In girls, the highest level of blood pressure, exceeding that of boys, is detected at 11, 12 and 14 years. In boys, these values were higher at 10, 13, 14, 15 and 16 years. The differences in the dynamics of indicators are due to different terms of the beginning of puberty. The results obtained indicate that the pronounced stress of the CCC and the mechanisms of regulation are more observed in boys than in girls. In this regard, the critical period of the functional state of the CCC is determined, in girls it is the age of 12, 13 and 14 years, and in boys it is the age of 13, 14 and 15 years. During this period, it is necessary to pay attention to the physical condition of the child; otherwise the increasing dysfunction of the CCC can lead to a pathological condition.

Thus, the conducted research has shown that over the past 10-15 years there is a clear trend of accelerating the physical development of gymnastics, accompanied by an increase in the load on the CCC, which must now be taken into account when working with this category of adolescents.

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OPPORTUNITIES FOR STUDENTS TO FORM BASIC CONCEPTS AND IDEAS ABOUT ENERGY SAVING

P.f.d. Abdiyev Umirbek Begmatovich*; Toshpulatov Sirojiddin Furqat ogli**

^{1,2}Termiz State University, UZBEKISTAN

ABSTRACT

This article provides and analyzes methodological suggestions and recommendations on how to use energy efficiently in physics lessons and club activities for schoolchildren. Practical examples of the use of traditional energy sources and renewable energy sources are also clearly shown on the basis of comparisons. Guidelines have been developed and applied to the learning process to develop students' skills in the rational, efficient and economical use of energy resources.

KEYWORDS: *Energy Sources, Rationality, Efficiency, Economy, Incandescent Lamps, Energy-Saving LED Lamps, Solar Photovoltaics, Multimedia Teaching Aids, Competence, Visual Aids, Working Model, Training Materials.*

INTRODUCTION

Energy saving is achieved in developed countries due to the high culture of energy use and the widespread introduction of modern technologies. In recent years, the Republic has been working hard to use energy resources rationally, efficiently and economically. It is known that the amount of energy resources needed for human life on Earth is currently declining sharply. One of the main reasons for this is the increase in the world's population and the negative impact of the manufacturing industry on the environment [1-2]. Conserving energy resources and taking measures to prevent environmental pollution has become one of the most pressing issues. To do this, humanity needs to address the issues of creating and improving access to modern energy sources and energy-saving technologies, as well as further developing a culture of energy saving in the population. This article provides some suggestions and recommendations for developing students' knowledge, skills, and competencies in the use of energy-saving technologies and the use of modern energy sources. Let's take a look at some of the things to look for when using electricity in your normal day-to-day life. As an example, the following elemental cases can also save a large amount of energy:

1. Unplug the phone chargers when the phone is fully charged;

2. Boiling and using the required amount of water in kettles;
3. Water heaters (Areston) must always be filled with water;
4. Switch off unused lighting fixtures;
5. Use of low-power consumer devices;

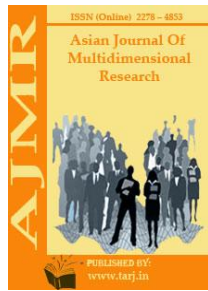
The above suggestions and recommendations are things that can be done in normal daily life and can save a huge amount of electricity. Therefore, it is important to provide students with knowledge and skills on how to save and use electricity wisely in physics classes and science clubs. Consider light bulbs as an example. It is known that a certain part of the population still uses incandescent lamps in the lighting system. This leads to a very large amount of electricity consumption. Thanks to the use of modern energy-saving LED lamps instead of incandescent lamps, we can chance comparing and contrasting examples with examples of how much electricity can be saved can help students get a clearer picture. For example, a 100 W incandescent lamp consumes 0.9 kWh per day for 9 hours. The cost of this energy is $0.9 \text{ kWh} \cdot 295 \text{ soums} = 265.5 \text{ soums}$. If you do this for a month, that is, for 30 days, $265.5 \cdot 30 = 7965 \text{ soums}$, and for a year (365 days, which is 12 months) it is $7965 \cdot 12 = 95580 \text{ soums}$. This means that a single incandescent lamp with a power of 100 W consumes an average of $0.9 \cdot 365 = 328.5 \text{ kWh}$ per year. Now, with the use of 3 incandescent lamps with a power of 100 W, this figure will increase threefold. That is $328.5 \text{ kWh} \cdot 3 = 985.5 \text{ kWh}$, the cost of this energy is $985.5 \text{ kWh} \cdot 295 = 290722.5 \text{ soums}$. This means that an average of 3 lamps in a single lighting system consumes 290,722.5 soums of electricity per year at home. If we take this indicator in relation to the households of the Republic, a quantitative measure of the amount of electricity consumed can be seen in the consumption of a very large amount of electricity.

Now let's look at the power consumption of energy-saving LED lamps: A single energy-saving LED lamp with a power of 20 W consumes 0.18 kWh of electricity for 9 hours a day. The average cost of this electricity is $0.18 \cdot 295 = 53.1 \text{ soums}$ per day, $53.1 \cdot 30 = 1593 \text{ soums}$ per month and $1593 \cdot 12 = 19116 \text{ soums}$ per year. That is, a 20 W LED energy-saving lamp consumes 64.8 kWh per year, $64.8 \cdot 295 = 19116 \text{ soums}$ for electricity. Now, if we compare this figure with a 100 W incandescent lamp, $328.5 \text{ kWh} - 64.8 \text{ kWh} = 263.7 \text{ kWh}$ plus energy consumption. The cost of this excess electricity is 77,791.5 soums. It turns out that, the use of energy-saving LED lamps in the lighting system allows us to save a significant amount of electricity. By explaining this information to the students in detail, it is possible to compare the possibilities of efficient use of electricity. At the same time, students have the opportunity to develop a culture of correct and rational use of electricity.

Another way to achieve energy efficiency is to develop and improve the use of alternative and renewable energy sources. The practice of introducing elementary concepts of alternative and renewable energy sources to students as new teaching materials in physics classes and study circles is being introduced. At that time, the use of solar energy, which is one of the types of energy, is now considered as one of the main issues in all developed countries. Because while solar energy is an inexhaustible source of energy, it is also an environmentally friendly, energy-efficient energy source.

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USE OF INNOVATIVE TECHNOLOGIES IN THE EDUCATION SYSTEM FOR INTEGRATION PURPOSES

Akhmadjon Mirzaevich Jumanov*; Muxtassar Abdulxayqizi Ziyomiddinova**

*Associate Professor,
Kokand State Pedagogical Institute,
UZBEKISTAN

**Student,
Kokand State Pedagogical Institute,
UZBEKISTAN

ABSTRACT

In this article the recommendations on the use of innovation technologies in educational system. As the main factors of modernization of education innovative approaches are enlightened. All educational activities are joint mental and physical work, joint or independent work of a student, a student is a multifaceted and complex process, consisting of activity and creative thinking. Questions that can be explained in the classroom and extracurricular activities are the integration of the educational process on a scientific basis with the use of force and modern pedagogical technologies. Innovative activities in education include the introduction of innovations in the educational process and the introduction of new concepts that ensure the coherence of cooperation between target teachers and student groups, as well as its relevance and purposefulness.

KEYWORDS: *Innovation, Integration, Education, Teaching Chemistry, Quality And Results Of Education, Methods Of Traditional And Non- Traditional Teaching, Pedagogical Innovation, The Leading Role Of Pedagogical Person In System, The Burning Problems Of Permanent Education System.*

INTRODUCTION

All educational activities are joint mental and physical work, joint or independent work of a student, a student is a multifaceted and complex process, consisting of activity and creative thinking.

Questions that can be explained in the classroom and extracurricular activities are the integration of the educational process on a scientific basis with the use of force and modern pedagogical technologies. Innovative activities in education include the introduction of innovations in the educational process and the introduction of new concepts that ensure the coherence of cooperation between target teachers and student groups, as well as its relevance and purposefulness.

This work requires a comprehensive solution to pedagogical, psychological and organizational issues. It should be noted that participants in pedagogical innovation must have thorough methodological, psychological, pedagogical, technological knowledge about the laws governing the process of emergence, manifestation and management of innovations. Otherwise, pedagogical innovations will not give effective results.

MAIN PART

In our opinion, the effectiveness of innovative processes introduced in the education system and responsibility for meeting the requirements for the introduction of pedagogical innovations, rational, rational and integrated use of traditional and modern teaching methods. In some cases, there are cases of abandonment of traditional effective methods. This seems to be the opposite of a teaching methodology that has been tested in practice and yielded positive results. Therefore, it would be good if the positive experience of the traditional education system was combined with innovation.

Today, interest and attention to the use of innovative technologies in the education system is growing day by day. One reason for this is that while educational goals so far have been to teach students only ready-made knowledge, modern technology has taught them to be creative, seek the knowledge they need, and even draw their own conclusions.

Innovative technologies in the pedagogical process are innovations, changes in the activities of teachers and students, the implementation of which requires the use of interactive methods.

Interactive methods are based on the active, free and independent thinking of each student involved in the educational process. When using these methods, learning becomes a fun experience for the student. Using interactive methods, students acquire skills and competencies for independent work with the help of teachers and their cooperation. Students gain new knowledge based on scientific research, research, experiments. The principle of cognition through knowledge is observed. Participants in the educational process work in small groups. Learning assignments are given to all members of the small group, not to the individual student. Each member of the microgroup tries to contribute to the task. This situation builds a sense of unity among students and increases their initiative. The main form of organizing the educational process is a lesson.

Currently, various non-traditional forms of education are being introduced. Such lessons serve to develop the creative abilities of the student, strengthen his mental abilities, expand his scientific horizons and develop his skills and abilities, allowing him to quickly and fully assimilate each innovation. The use of innovative technologies in the classroom arouses students' interest in scientific research, develops creativity and ingenuity. As a result, the acquired knowledge, skills and abilities are applied in practice, the quality of assimilation increases.

For this, the teacher must be experienced and correctly plan the lesson in accordance with the content so that all students work actively and consciously during the lesson. At the same time, it

is important to teach each teacher to assimilate, process and apply a large amount of information in a short period of time.

At the same time, it is important to teach each teacher to assimilate, process and apply a large amount of information in a short period of time. In solving it, the teacher is helped by the use of modern information technologies, including computers, along with traditional teaching methods. The use of computers in the classroom allows for an interesting educational process, an individual approach to each student.

At the same time, first of all, it will be possible to transfer to students a lot of knowledge, facts and information using a wide range of information and communication technologies. Second, it is easy and effective to fully implement the teacher's innovative plan, ideas and thoughts. Such processes play an important role, especially in chemical education.

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We believe that one of the main tasks of ensuring continuity and continuity in the system of lifelong education is not only teaching students and trainees on the basis of innovative technologies, but also teaching them to successfully use innovative technologies in future practical activities.

Thanks to the integration of sciences, unique achievements of civilization are achieved [2; p. 66.]. It happens so that a person understands the world around him and his personality, learns new laws of the relationship between man and society. In such a dialectical process, an economic phenomenon created by human intelligence, such as production, rises to a leading position. When all efforts are aimed at serving the health, completeness and flexibility of a person, the essence of such a large-scale life phenomenon as production becomes clear.

To live and reproduce, create and create, engage in science and politics, it is also necessary to establish production, agriculture and animal husbandry. Many things and events are known due to the close connection between the organism and the environment, the interconnectedness of celestial bodies, cosmic factors of life on Earth, the consistency of changes in human life with geological and astrophysical phenomena, the successful participation of science in the study of the Universe.

Such global scientific-creative, social-educational and anthropo-noospheric processes are not weakening.

Possessing ideological, methodological, axiological, epistemological, ontological, praxeological, humanistic, educational, communicative, critical, integrative, predictive and sociological functions, they are involved in the most important and general issues of "world-human" relations, philosophy and natural science. Sciences can be interpreted accurately and completely, objectively and in the mirror of reality.

Considering that a person cannot live without the universe, without material goods, it becomes clear that science and production serve as a double wing for him. It is illogical to argue about which membership is first. The universe is primary, man is secondary, and production and science are the physical and intellectual products of man. It is necessary to refrain from praising human creativity and to summarize its "white" and "black" aspects.

Is it an objective fact that thousands of wars, large and small, bloodshed, the contribution of production and science, the share of human mental and physical labor in the creation and use of weapons of mass destruction? Therefore, you need to understand the phrase in the topic of the article in a broader sense. It is time to realize that it is time to put swords in plows again, to produce tractors and seeders instead of tanks, and to use the money spent on nuclear and nuclear weapons in the most essential sectors of the national economy! Only humanity, which was able to interfere with the achievements of science and technology, technology and anthropogenetics on the path of hunger and hunger, hunger and high prices, disease and death, energy and other shortcomings, can survive in the 21st century.

As soon as there is material supply, the spiritual world begins to flourish. Purposefulness arises only when science serves production, production serves humanity, and man serves the material and spiritual development of the Universe.

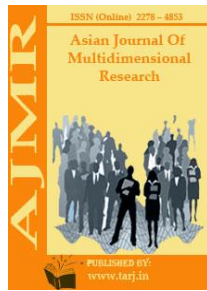
Reflection of such processes in education is much more difficult. This is due to the continuity and continuity of the education system. Coverage of such social, economic, political and organizational issues through the traditional information mission of education will not be complete. With the help of modern educational technologies, the goal can be achieved in the implementation of educational tasks [3; p. 312-314.].

Currently, when reforms in the system of lifelong education of the Republic of Uzbekistan are in full swing, the need to improve the form and content of education and upbringing should become the main issue on the agenda and further strengthen teacher-student cooperation.

In general, the human factor is a very important component in education and upbringing, and it should manifest itself as a powerful force ensuring that there is no gap in ideological polygons. The goal is achieved when the worldview of youth, based on universal human and national values, is combined with scientific and secular knowledge.

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STRUCTURE AND CORRECTION OF PSYCHOEMOTHICAL DISORDERS IN PATIENTS WITH SECOND TYPE OF DIABETES

Bekzod Bahromovich Ibodullaev*

*Assistant,
Urgench branch of the Tashkent Medical Academy,
UZBEKISTAN

ABSTRACT

This article discusses the importance of a medical-psychological approach in correcting the structure of psychoemotional disorders in patients with type 2 diabetes. This study analyzed the prevalence of psychoemotional disorders in patients with type 2 diabetes, ie the level of anxiety and depression using psychological scales, and showed the effective results of timely medical and psychological care in correcting the level of anxiety and depression in patients.

KEYWORDS: *Diabetes Mellitus, Anxiety, Depression, Psychoemotional Disorders, Psychotherapy, Metabolic Disorders.*

INTRODUCTION

Today, the progressive growth of the world's population is leading to an increase in the number of chronic diseases caused by metabolic disorders, one of which is type 2 diabetes, one of the diseases recognized by the WHO as a multidisciplinary problem. Currently, the number of people with diabetes is on the rising progress. According to experts from the International Association of Diabetologists (HDF, IDF) in 2015, more than 415 million patients worldwide suffer from diabetes. By 2040, that number is expected to exceed 642 million. The average age of the registered patients is 20-79 years, China ranks first in the world in terms of salinity - 109.6 million (99.6-133.4), India - 69.2 million (56.2-84.8), third in the United States - 29.3 million (27.6-30.9). In our country, these figures are 7.6% of the population aged 20 to 79 years, and the adult population - 0.73% [1,2].

As of 2019, 230,610 people were diagnosed with diabetes in Uzbekistan, of which 18,349 were type 1 diabetes and the remaining 212,261 were type 2 diabetes. In the years of 2014-2015 study by WHO and IAD found, that it was 9.1% (according to STEPS) among those aged 18 to 35 years [4]. Studies at the V Russian Congress of Diabetologists in 2010 showed that, 38% of patients with diabetes had different levels of depressive disorders, indicating a high prevalence of cardiovascular disease, oncology and skin diseases [3,8,9]. Depression and anxiety constitute

two of the most common psychiatric disorders globally, and like diabetes, occur at high frequencies in the general population. The worldwide 12-month prevalence of depression is estimated to be 4.4%, equivalent to over 320 million people [5]. The corresponding prevalence of anxiety disorders is 3.6% globally, equivalent to 264 million people [5]. Lifetime prevalences of both disorders are far higher, with rates rising as high as 20.8% for depression and 33.7% for anxiety [6,7]. Depression is ranked by the World Health Organization as the single largest contributor to global disability, and anxiety disorders are currently ranked 6th, accounting for 7.5% and 3.4% of all years lived with disability in 2015, respectively [10].

From the above indicators, it can be seen, that type 2 SD is progressively growing. This, in turn, requires the elimination of the factors, that lead to the emergence of the disease and its various serious complications. In addition to metabolic disorders in type 2 diabetes, the study of the effects of psychoemotional disorders, such as the development of anxiety, phobias, depression, and their timely detection, is one of the current medicopsychological problems [4,5]. This medical-psychological problem requires new research.

Objective: To study the structure of psychoemotional disorders and provide medical and psychological assistance in patients with type 2 diabetes in the Department of Endocrinology of the Urgench branch of TMA.

MATERIALS AND METHODS

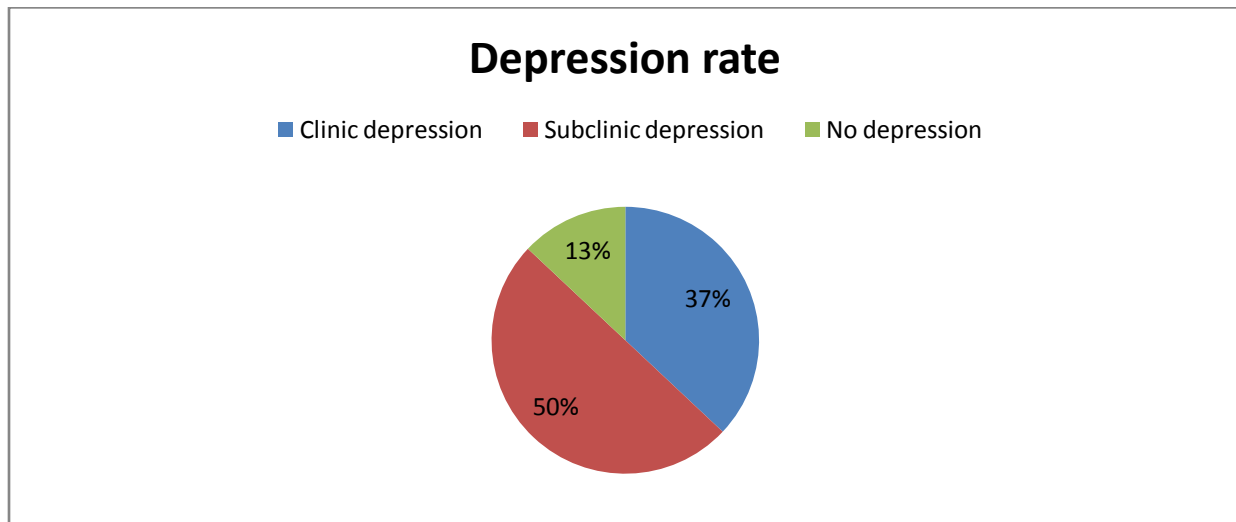
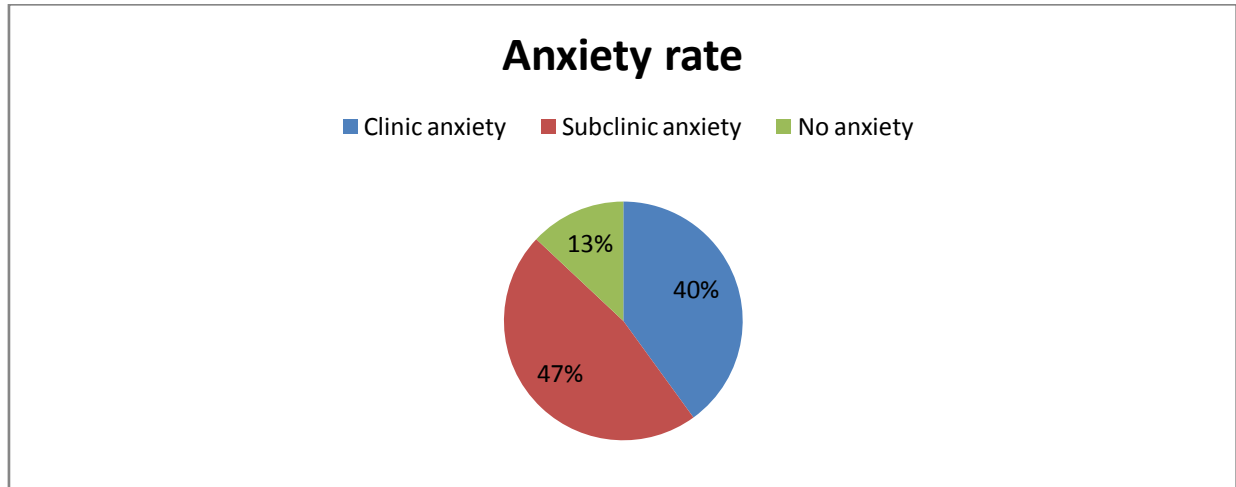
In the endocrinology department of the Urgench branch of the TMA, 30 patients treated for the diagnosis of type 2 diabetes were included in the main group. The average age of patients was 55.8 ± 11.8 , of which men - 46%, women - 54%. The control group included 24 patients with diabetes, 45% of patients in this group were men and 55% were women. The HADS (Hospital Anxiety and Depression Scale A.S. Zigmond and R.P. Shraith 1983), a hospital scale used to assess anxiety and depression, was found to be the most reliable in the screening of psychosocial disorders by WHO in assessing the level of psychemotional disorders, i.e. anxiety and depression in our patients. The "Hospital scale of anxiety and depression" consists of 14 points, each of which has 4 different answer options that indicate the severity of the identified symptom: 0 - no symptom; 1 - light; 2 - average; 3 - heavy; 4 - very heavy. The responses obtained showed that patients had a subclinical anxiety and depression score of 6-9 based on a gradation of anxiety and depression scores, and a score above 10 indicates a high level of clinical anxiety and depression, i.e., at the clinical level.

In addition to the basic treatment in our patients in the main group in the correction of psychoemotional disorders developed in our patients, "Rational-emotional psychotherapy (A. Ellis 1955y) was carried out, patients in the control group, unlike the main group, were treated in our patients in the control group. In addition, a pre-medical-psychological questionnaire (Ibodullaev Z.R. 2008) was conducted to determine the effect of various medical and social factors on the level of anxiety and depression in patients, which included the patient's psychological status, baseline treatment, etc. were analyzed. The results were obtained using methods designed for medical statistics available in Microsoft Office Excel 2007. The statistical reliability level of the indicators was calculated using the Student Criterion (t).

RESULTS

Our studies and observations show, that the underlying structure of psychoemotional disorders developed in our patients is found to constitute anxiety and depression. Using the following diagrams, we show the levels of anxiety and depression identified in our patients using the developed HADS scale (Figures 1-4).

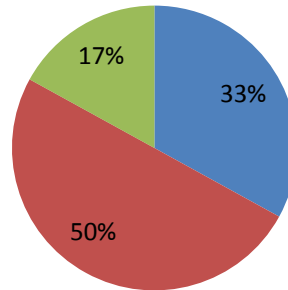
Developmental structure of anxiety and depressive disorders in the main group of patients with D type 2 ($p < 0.05$) (Figure 1-2)



Structure of development of anxiety and depressive disorders in control group patients with D type 2 ($p < 0.01$) (Figure 3-4)

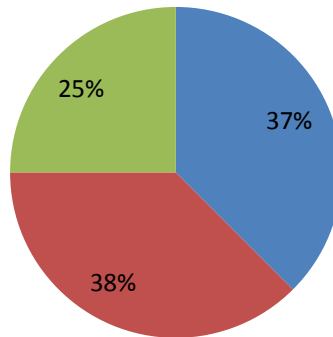
Anxiety rate

■ Clinic anxiety ■ Subclinic anxiety ■ No anxiety



Depression rate

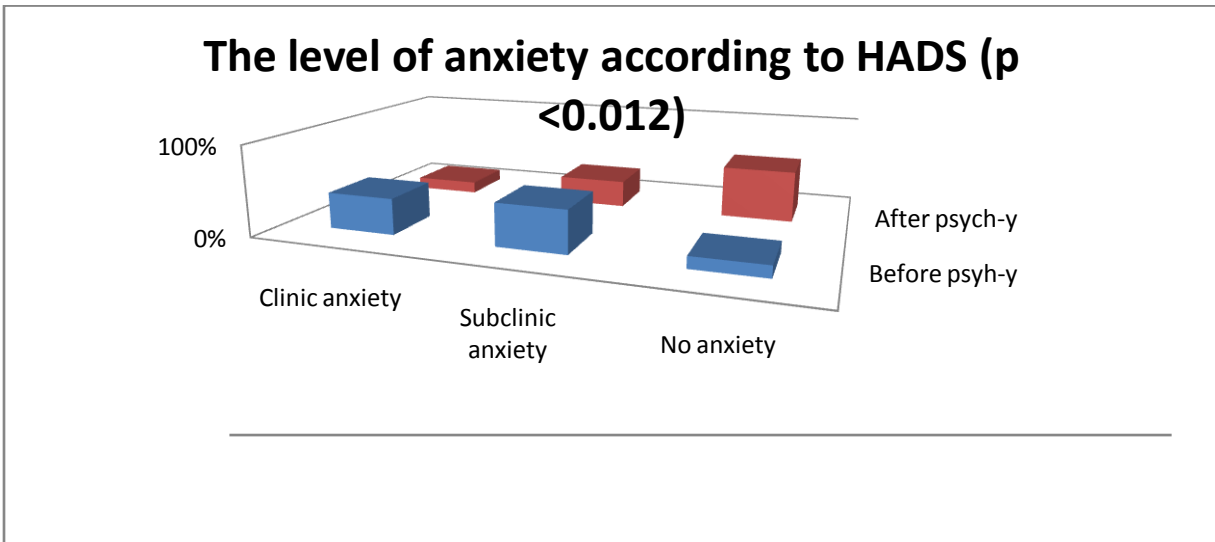
■ Clinic depression ■ Subclinic depression ■ No any depression



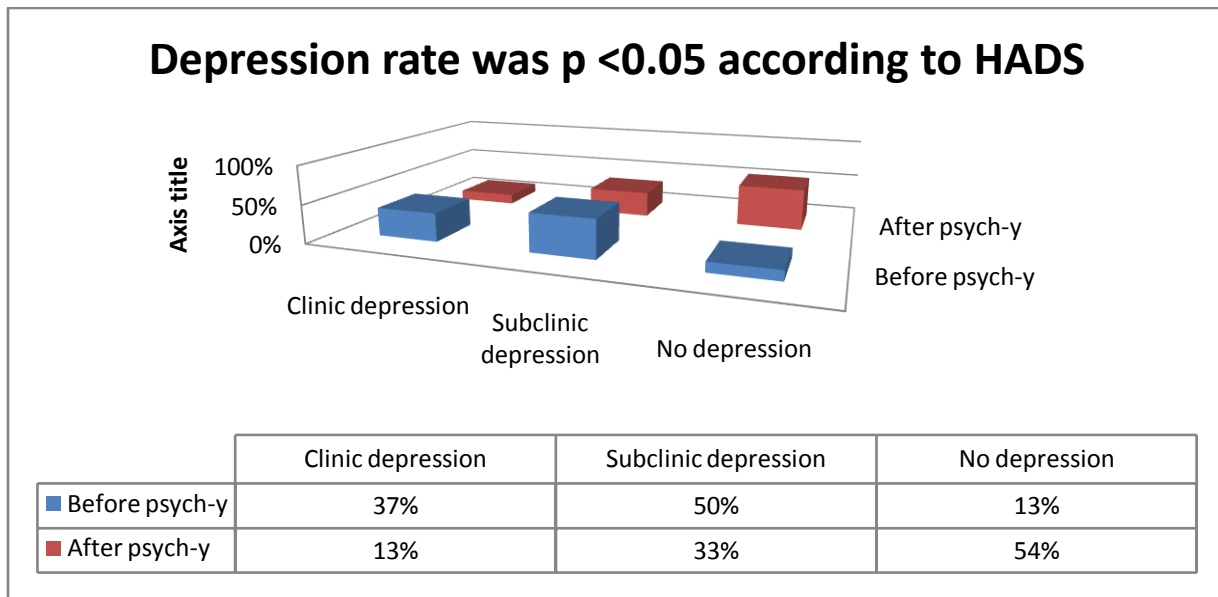
The above figures show that 40% of our 30 patients in the main group had no clinical anxiety, 47% had no subclinical anxiety and 13% had no anxiety, and the control group had 33% no clinical anxiety, 50% no subclinical anxiety and 17% no anxiety. detected. The degree of depression detected in our patients was 37% clinical depression, 50% subclinical depression and 13% no depression in the main group, and 37.5% clinical depression, 37.5% subclinical depression and 25% depression in the control group.

The results of rational-emotional psychotherapy in combination with basic treatment in the main group in the correction of the level of anxiety and depression developed in our patients were as follows:

Results of rational-emotional psychotherapy in the main group of patients with D type 2 (before and after psychotherapy)



From the above, it can be seen that the results of psychotherapy in the main group showed a decrease in the level of clinical anxiety in our patients from 40% to 13%, subclinical anxiety from 47% to 30%, an increase in undiagnosed patients from 13% to 57% (p <0.012).



In the main group of patients, the rate of depression increased from 37% to 13% in clinical depression, from 50% to 33% in subclinical depression, and from 13% to 54% in patients without depression (p <0.012). In the control group, however, these figures were shown only as a result of the baseline treatment as follows (Table 1).

Level of anxiety according to HADS	Clinical anxiety	Subclinical anxiety	No anxiety
Before psych-y	33%	50%	17%
After psych-y	30%	48%	22%

As can be seen above, we can see that the level of anxiety changed in our patients in the control group only at a small percentage due to baseline treatment ($p < 0.01$). Similarly, changes in the level of depression were observed in a small percentage of our patients (Table 2).

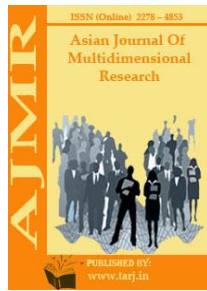
Depression rate HADS	Clinical depression	Subclinical depression	No depression
Before psych-y	37,5%	37,5%	25%
After psych-y	36,5%	35,5%	28%

CONCLUSION

From the results of our observations, we can conclude that in our patients with type 2 diabetes, the main structure of psychoemotional disorders is anxiety and depression, which in turn can not only affect the quality of life of our patients, but also lead to various adverse complications. A significant reduction in the level of depression and anxiety in our patients has been proven during our observations, if more effective medical-psychological correction methods are used during the basic treatment.

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FUNCTIONAL AND STYLISTIC FEATURES OF NOUNS IN PERSIAN NEWSPAPER TEXTS

Dilfuza Rafukjanvna Akhmedova*

*DSC, Associate Professor,
Tashkent State University of Oriental Studies,
Republic of Uzbekistan,
Tashkent, UZBEKISTAN
Email id: dilakhmedova@mail.ru

ABSTRACT

Currently, one of the actively developing directions in linguistics is language learning in a functional-stylistic aspect. Special attention is paid to the study of the use of language units in different functional styles. Publicist texts are studied according to the functional approach to linguistic analysis of newspaper texts, investigated based on semantics and form of language units, their function in text formation. In the implementation of this function, the semantics and form of the language unit are transformed into a means of generating newspaper text. Although the analysis of the application of parts of speech and their semantic groups within functional styles is particularly important in Iranistics, there are no studies on this subject. The study of the newspaper-publicist style of Persian is the most important direction of modern Iranistics.

KEYWORDS: *Stylistics, Newspaper Style, Qualitative Adjectives, Relative Adjectives, Verbs, Text, Thematic Group, Verbs of Speech, Informative, Functional Features of Verbs.*

INTRODUCTION

Currently, one of the actively developing direction in world linguistics is the study of language in the functional and stylistic aspect. Particular attention is paid to the study of the use of language units in various functional styles.

In the world linguistics the journalistic texts are studied according to the functional approach to the linguistic analysis of newspaper texts, are investigated, and based on the semantics and form of language units, their functions in the formation of the text. In the realization of this function, the semantics and form of a linguistic unit turn into a means, generating a newspaper text. Despite the fact that the analysis of the use of parts of speech and their semantic groups within the framework of functional styles acquires particular importance in Iranian studies, but

nevertheless there are no monographic studies on this topic. The study of the newspaper and journalistic style of the Persian language is the most important direction of modern Iranian studies.

MATERIALS AND METHODS OF RESEARCH.

Currently, there is a growing interest in the study of the language of the media, particularly the language of the newspaper. The works of S. Mukhamedov [1], A. Boboeva [2], D. Teshaboeva [3], K. Yusupov [4], A. Abdusaidov [5], I. Toshaliyev [6], I. Azimova [7], Sh. Abduraimova [8], B. Yuldoshev [9], I. Mamatova [10], N. Kodirov [11], in Russian linguistics there are works of G. Y. Solganik [12], A. N. Vasilieva [13], S. Vinogradov [14], M. Volodina [15], V. G. Kostomarov [16], O. Aleksandrova [17], N. Klushina [18], M. N. Kozhina [19], E. Kubryakova [20], I. Kobozova [21], I. P. Lisakova [22], A. Leont'ev [23], V. Kon'kov [24], K. Bilinsky [25], E. Kakorina [26].

In Iranian studies, the first studies on the Iranian press language are the studies of the English scholar E. Brown. In the book "History of Press and Literature of Iran in the Age of Mashruta" [27] the author gives detailed information on journalism of that era, Iranian newspapers published in India.

Nosiriddin Parvin's scientific works are devoted to the study of the Iranian press language, in which the history and characteristics of Iranian journalism are covered [28]. The history of Iranian press is also described in the works of Iranian scholars Jafari Honako and Mas'ud Barzin [29].

The specific features of the Iranian newspaper are reflected in the scientific articles of Mohammad Rizo Isfandiyari [30], Zahro Abzori [31], Rabobe Mustahgi [32], Farzon Khudoband [33], Alirezo Bunyodi [34] and others.

It should also be noted the importance of studies by Tajik Iranists Mulloev Sharif [35], R. Mehdi [36], and Russian Iranists A. Abbasogli [37], which are relevant to the topic of this dissertation research.

A. Sukhorukov conducted a study on the use of equivalents of Europeanisms and Americanisms in Iranian newspapers on the example of the Iranian press [38].

The importance of the discourse of the Persian language is noted in the scientific article of E. Gladkova "Some aspects of the socio-political vocabulary of the modern Persian language (on the material of M. Ahmadinejad's speeches at the UN)". In particular, the author concludes that the speeches of M. Ahmadinejad delivered on world arenas are "logically formed and justified", which increases the interest in the study of political discourse [39].

The study of problems on this subject of research in other languages, for example, in Tajik language, a number of works were done: in the master's thesis of H. Safarov [40] the lexicogrammatical and stylistic features of the headlines of Tajik newspapers, in the PhD work of M. Muzofirshoev on the example of the analysis of language of periodicals is studied word formation of neologisms in the Tajik language [41].

In the above studies of the lexical features of the language of mass media in Iran, certain aspects of the Iranian periodical press are covered, but the inclusions of different styles in newspaper texts are not studied, the role of the language units used in them in conveying emotional and expressive meanings is not determined; the issues of grammatical forms in the texts of Persian

newspapers, which implement the many stylistic meanings, have not been covered; such stylistic aspects of newspaper texts, as novelty, and the stylistic aspects of the language are not investigated.

As a result of worldwide scientific research on the peculiarities of the Iranian press language and comparative analysis of the texts of Persian newspapers and English-language texts, a number of scientific results were obtained, in particular the following: The rhetorical features of newspaper texts in Persian language (Baku Institute of Oriental Studies) were established, it was proved that the main part of articles published in large circulation in Iran is devoted to religious topics (دانشگاه تهران), the social factors influencing the formation of newspaper texts in Iran (English and Foreign Languages University), clarified the linguistic factors that form the headlines of sports newspapers in Iran (Institute of Asian and African Countries at the Moscow State University named after M. B. Lomonosov Moscow State University), the productivity in Iranian newspaper texts of neologisms borrowed from the Arabic language (دانشگاه علامه طباطبائی) was proved, informing was recognized as the main function of the newspaper (Delhi University), a comparative analysis of English and Persian newspapers was conducted, it was proved, that metonymy and metaphor are productive in texts in both languages (Cambridge University), thanks to the carried out comparative analysis of English and Persian texts on sports subjects besides the linguistic differences were also revealed cultural features (Mississippi University).

RESULTS

On the basis of scientific findings and practical suggestions on the analysis of peculiarity of the Persian language's part of speech in the newspapers, methodological and functional features of the newspaper texts.

The use of scientific findings has helped to define the issues related to the methodology of translation in the process of translation of the newspapers, the definition of the linguistic character of the translated textual functional style, the selection of these unique methodologies in the translation process, and the new theoretical approaches to the translation of the translation process with the original text;

DISCUSSION

In modern world linguistics scientific research on the priority areas of newspaper and journalistic style is conducted, namely, the coverage of newspaper discourses, establishing the role of socio-political factors in the formation of newspaper texts, compiling a dictionary of political terms in newspaper texts, establishing linguistic and social factors of media language.

The changing socio-political situation in the world, in turn, increases society's need for innovation. Recently, with the increase in the importance of the media in life, the need for in-depth study of the media has increased. Newspaper language consists of units of text, the units of which, in turn, are the object of study of stylistics.

At present, there is a large number of studies on stylistics in Iranistics [42,43,44], the study and analysis of which proves that the works on stylistics created in the period before the end of the twentieth century are mainly devoted to literary stylistics, namely, the stylistics of literary genres. In the late twentieth century and early twenty-first century, a new approach to the issues of stylistics is observed in Iranian studies.

In Persian, "style" is expressed by the terms *سبک*, *سیاق*, *گویه*, *گونه کاربردی*. In Iranistics, despite the differences in style classification, especially in the meaning of the term "style" there is also a common, namely, during the analysis it was found that there is a common between them one and the same style in different works is called differently, or you can meet classifications where the same style refers to several groups. When distinguishing styles, the relationship between the speaker and the listener, their social differentiation, placement in time and space are taken as the basis.

Publicistic style is used in politics and some social branches, it performs the function of informative and expressive impact [45, p.48]. Proceeding from the fact that in Persian the publicist style encompasses elements of official, scientific, artistic and oral styles, it can be included among the most open styles in the system of functional styles.

Newspaper language occupies a special place in the journalistic style because newspaper and journalism are closely related to each other. Each journalistic article in a newspaper can express peculiar social problems or artistically convey various transformations in society [46, p.20].

Currently, there is a special interest in newspaper language in Iran, as evidenced by a number of studies conducted in this field [47, 48, 49, 50]. In the process of studying the studies it is revealed that in the newspaper language there is a desire for brevity, avoidance of terms, proper selection of the style of presentation and preservation of purity of the Persian language. Along with this, scientists state the importance of newspapers in the education of young people. As a result of the analyses it is established that the main attention in the Persian newspapers is paid to the transmission of accurate information, purity of language, educational function.

Newspaper genres are divided into informational, analytical and fiction-publicistic [45, p.266]. Analysis of works on Persian linguistics showed that there is no classification of newspaper genres and it distinguishes only the varieties of newspaper texts. For example, Ahmad Giloni cites *گزارش* "advanced article", *خبر* "information" as varieties of Iranian newspaper texts, *گزارش خبری* "reportage", *مصاحبه* "interview", *بخشهای فرعی* "additional headings" (health, environment, family, science, book, exhibition, film etc.) [51]. Hassan Zulfikori states that Iranian periodicals consist of 4 models - *خبر* note, *گزارش* report, *مصاحبه* interview and *مقاله* article [52].

The topics of Iranian newspapers cover the headings: socio-political news, local news, Iran and culture, news in the world, sports and others. In general, the topics of the headings of Iranian newspapers can be divided into five groups, namely socio-political topics, economy, sports, culture and literature. In the study, in the process of highlighting the functional and stylistic features of the parts of speech, we turned to the socio-political, economic and sports headings. The peculiarities of newspaper texts in parts of speech are mainly reflected in the above three headings.

The diversity in newspaper texts, in addition to the basic and additional meanings of words, leads to a functional distinction between nouns and adjectives. In the texts of Iranian newspapers there are cases of the use of words in connotative meaning, which is manifested in different contexts. For example, the true meaning of the word *جبهه* "front" is "battlefield"; at the same time, it has the meaning of a territory where various activities are carried out simultaneously, an alliance of social forces aimed at the realization of certain goals. This lexical unit in newspaper texts, along with expressing the meaning of the military term, is also used in the political meaning.

And what exactly the meaning is realized, it is possible to determine with the help of the context.

طب یکی از جبهه ها، که مهمات دائما فاقد آن هستند، و سربازان به مرگ می ایستند و این تهاج را محدود می کنند [E.24373:6]

Medicine is one of the fronts where weapons are always in short supply and soldiers are fighting death, reflecting the attack. In the above example the word **جبهه** front is used in its true meaning, but in the sentence doctors are likened to soldiers and medicine to weapons, so that the front takes on a figurative meaning.

In newspaper texts, the expansion of the semantics of the word **جبهه** is the result of contextual addition: the relationship of politics and commerce is implicitly evaluated negatively as a hostile attitude associated with military actions. The same implicit is reflected in the following context as a negative expression with the neutral word **ارتش** army.

[S.P.3912:11] ارتش مقامات، مانند یک ارگانیزم انگلی، هر ساله رشد می کند

The army of officials is replenished year after year like an organism of parasites.

1. The totality of the armed forces of a state; 2. Meaning part of the armed forces at the front, and figuratively meaning a multitude of people engaged in a common activity. If we compare the word **ارتش** army used in the above example with the sentence **در ارتش، مانورهای مالی** Financial maneuvers are expected in the army, we find that it denotes the meaning "many" and "living off others", which is enhanced with context. Semantic and stylistic meanings of the analyzed nouns are also manifested in other styles, but we should especially note the possibilities of newspaper texts, where the mentioned meanings are significantly extended.

In newspaper texts anthroponyms and toponyms are the most frequent of onomastic units and the main factors of anthroponyms found in newspaper texts are as follows: physical, psychological, biological, spiritual, intellectual data of a person, his social, national affiliation. Anthroponyms are used not only as commentators of certain events or the authors of this or that speech, but also to influence the reader, to attract his attention. At the same time, names of famous people are mostly used. For example, in Iranian newspaper texts the names of Saddam Hussein, Trump (in the sources we studied - Borak Obama), the Prime Minister of Israel and the King of Saudi Arabia are used with negative connotations. The articles where their names are used have a patriotic spirit, and these anthroponyms to a certain extent fulfill the function of influencing readers, propaganda and agitation of the national idea. The use in newspaper texts of anthroponyms denoting the names of heads of state, ministers, and heads of organizations, deputies, athletes, writers, and ordinary people is another feature of the newspaper journalistic style.

Geographical onyms acquire an informative character through the nomination of the events taking place. The semantic activity of toponyms determine the emotional impact of the newspaper journalistic style [53, p.80]. In addition, the names of countries are used to recall the historical fate of certain states. As a result, the names of some countries acquire a symbolic character, for example, while the names of African countries, mostly denote the symbol of poverty, the names of Arab countries symbolize wealth and luxury.

هر گونه محاسبات مربوط به نسخه چیلی، اگر چه هیچ کسدر مورد آن با صدای بلند صحبت نم کند، به نظر می رسد ساده لوح و ب سواد است. تلاش برا بتدیل شدن به چیلی، آنها نیرجیه شدند: همان فساد و همان فت

Despite the fact that no one declared it loudly, the Chilean version came out ordinary and illiterate. In striving to become Chile, they turned into Nigeria: same corruption, same oil. In this example, Chile is portrayed as a country that, under a strict regime, managed to organize economic activity and thus achieved economic growth, while with the name Nigeria figuratively portrays a country that, despite having underground minerals, failed to achieve economic stability because of the greed of its officials.

It should be noted that in newspaper texts, the traditional metonymic transfer of the model "name of the capital - name of the country" is often encountered. A peculiar feature of political texts is that they use proper names, denoting the names of capitals, to express those countries. For example,

الصباغ با اشاره به اینکه تهران بغداد را از دست اشغال داعش نجات داد، گفت [S.R.14:7]

In the sentence Alsabog hints that Tehran saved Baghdad from ISIL تهران Tehran and بغداد Baghdad do not denote names of capitals, they symbolize the states of Iran and Iraq.

There is no functional distinction in the number category of nouns. The plural affixes آن and ها are used in all styles. It should be especially noted that although the plural affix آن may be grammatically replaced by the plural affix ها, this is almost never observed in newspaper texts. This can be substantiated by the fact that newspaper texts show signs of high style. This suggests that the plural affix آن has a stronger connotation of formality than the affix ها. One of the peculiar stylistic features of newspaper texts is the extensive use of Arabic plural affixes and split plurals.

"The Iranian press, the means of modern information media are saturated with borrowings" [54, p.17]. Despite the fact that there is currently a language policy aimed at cleaning the language from borrowings, we can note the addition of borrowings from Western languages to the vocabulary of the modern Iranian newspaper. This is due to the great changes in the social, political and cultural spheres. Analyzing the use of loanwords from Western languages in newspaper texts, it was found that they are mostly used as doublets of Persian words. Iranian linguists do not welcome the process of penetration of loanwords in the fields of science, commerce, politics and economics into the modern Iranian language through newspaper texts. However, in our opinion, in the process of acquainting readers with various events in the society, the authors do not have the opportunity to find doublets to foreign words in the shortest possible time and concretely convey the information.

The information conveyed in newspapers stands out for its compression. And compression is inherent in abbreviations. "The abbreviation method of word formation is considered a relatively new phenomenon of language that entered Iranian linguistics in the second half of the twentieth century. At first, borrowed abbreviations in the Latin script appeared in the Iranian press, with the passage of time purely Persian initial abbreviations also appeared". [55, p.77]. During the analysis of newspaper texts in Persian it was found that abbreviations are mainly used in articles on economics and politics, in most cases, abbreviated names of international organizations are used. Abbreviations are considered the main means of newspaper texts. The scope of their use, informative function, peculiarities of accuracy and conciseness allow us to consider them as lexical means peculiar to the journalistic style.

CONCLUSIONS

The stylistic features of newspaper texts, namely the novelty, relevance and brevity of information are related to the informative function, contributing to the implementation of lexical units that participate in the formation of news. The influential function, first of all, is provided by the lexicon expressing propaganda, agitation and socio-political orientation of the texts. The relationship between the two functions on the basis of the conditions of formation of newspaper texts implement a combination of expression and standard.

The analysis showed that in newspaper texts nouns have more extensive functional and stylistic possibilities compared to other parts of speech. However, in some grammatical forms of nouns no functional limitation is felt. This can be seen in the example of the plural category.

In the newspaper and journalistic style nouns have an informative function, in particular, with the help of nominative and proper nouns, the category of number reveals its stylistic possibilities. The use of toponyms, anthroponyms and names of months demonstrates the peculiarity of newspaper and journalistic style. The use of the names of months in the Muslim and Christian chronology in the newspaper texts depends on the subjects of articles or notes. The names of months in the Muslim chronology are used when reporting on domestic events, and the names of months in the Christian chronology are used in the news of the world. Abbreviations have now become an integral part of newspaper and journalistic style. In newspaper texts, Latin-script abbreviations are often used in translations into Persian of English names of organizations.

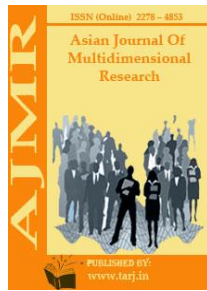
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PEDAGOGICAL BASIS OF ORGANIZING EDUCATIONAL HOURS FOR 10-11 GRADE STUDENTS

Gulom Yuldashevich Salomov*

*Teacher,

Department of General Mathematics,
Pedagogical Institute, Termez State University,
Termez, UZBEKISTAN

Email id: gulom.salomov1188@mail.ru

ABSTRACT

This article consistently describes the organization of educational hours for students of X-XI grades of secondary schools. In the process of conducting educational classes for students of 10-11 grades of secondary schools, high spiritual and moral qualities should be embodied in the minds of students. It is important to constantly inform students in grades 10-11 about the latest achievements in science and culture, to keep their minds busy with positive work and educational activities. The happiness of every nation, the peace and prosperity of the state depend on the upbringing of the youth. It changes physically and mentally throughout a person's life. Development in childhood, adolescence is extremely strong.

KEYWORDS: Educational, Social, Upbringing, Society, Morality, Happiness, Spirituality, Personality, Process, Ancient, Literary, Generation, Ancestor, Activity, Environment, Feature, Culture, Tradition.

INTRODUCTION

The happiness of every nation, the peace and prosperity of the state depend on the upbringing of the youth. It changes physically and mentally throughout a person's life. Development in childhood, adolescence is extremely strong. It is during these years that a child develops as a person due to growth and change, both physically and mentally. As a result of the purposeful influence of the upbringing, the child becomes a member of society and takes its rightful place in a complex system of social relations.

The success of upbringing depends in many ways on the specific characteristics of the child's personality, taking into account the influence of the environment in which he lives. The child interacts with family members, caregivers, student peers, and people close to the family.

Taking into account the traditions, national values, conditions of the regions of our country, expanding its network and reforming it at the level of modern requirements in the organization of educational hours for students of 10-11 grades of secondary schools is a topical issue today. At present, on the basis of the new laws of pedagogical and information technologies, our pedagogical scientists are conducting relevant research in the development of various forms and methods of more effective organization of educational hours in educational institutions.

In the process of conducting educational classes for students of 10-11 grades of secondary schools, high spiritual and moral qualities should be embodied in the minds of students. It is important to constantly inform students in grades 10-11 about the latest achievements in science and culture, to keep their minds busy with positive work and educational activities.

It is expedient to set requirements for the organization of educational hours for students of 10-11 grades of secondary schools and the use of innovative technologies in the following areas:

- Love for the motherland, upbringing of a perfect person.
- Aesthetic education.
- Participation in tourism clubs.
- In the field of environmental education.
- Students in the spiritual, moral direction.
- In the field of legal education.
- In the technical and creative direction.
- Talented young people.
- Economic education.

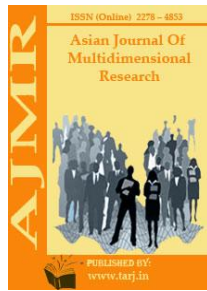
Educational hours for students of 10-11 grades of secondary schools are carried out according to the plan. There are specific requirements for the preparation and conduct of activities aimed at organizing free time for students. One of the main principles of organizing any educational event is the leadership of adults and the unity of creativity and hobby of students. An important educational activity of secondary schools is to teach young people aesthetic, environmental, ethical, legal, economic and other types of educational work.

The educators of the educational institution form in the heart of the student such qualities as love of the book, reading and reverence for it. Educational hours conducted in educational institutions, the content of each event should reflect the love for the Motherland and the upbringing of a perfect person. Students will be informed about the history of culture of our motherland, the role of our great thinkers in the field of world science and culture, confidence in the bright future of our country in cultivating a sense of patriotism. Loving the homeland, caring about its future is a symbol of faith.

In short, it is well known that the organization of educational hours for students of 10-11 grades of secondary schools, the effective organization of teaching the subject of education is an important and topical issue of public policy.

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APPLICATION OF THE IMMUNOSTIMULANT ZEROX FOR DETERMINATION OF LEAF SURFACE, DRY MASS AND NET PRODUCTIVITY OF PHOTOSYNTHESIS OF COTTON PLANT

Makhbuba Latipovna Ikramova*; **Rukhsora Odilovna Atoeva****;
Bakhtiyor Nimatovich Rakhmatov***

*Associate Professor,
Ph.D. in Biological Sciences,
Scientific Research Institute for Seed Breeding and Agricultural Technology of Cotton Growing,
Bukhara Scientific Experimental Station, UZBEKISTAN Email id: davlat_0024@mail.ru;
ikramova55@mail.ru

**Doctoral Student,
Bukhara State University, UZBEKISTAN
Email id: kumushzokirjonova@mail.ru

*** Associate Professor,
Ph.D. In Agricultural Sciences,
Scientific Research Institute for Seed Breeding and Agricultural Technology of Cotton Growing
Bukhara Scientific Experimental Station, UZBEKISTAN
E-mail: davlat_0024@mail.ru

ABSTRACT

In this article, information about universal and triple contact actional ZEROX immunostimulant at 3 various (1-2-3 l/t and 1-2-3 l/ha+Surfactant 0.15 l/ha) norms and different (pre-sowing to cotton seed was treated, 2 - 4 true leaves, shading, flowering) periods when it affected to Bukhara 10 cotton on various numbers of seedlings are presented. Research has shown, when in pre-sowing of seed 2 l/t and 2 l/ha in vegetation periods of ZEROX immunostimulant in the number of left seedlings 80 - 90,000 plant/ha of Bukhara 10 cotton it was treated, it was determined that the highest leaf surface (11500 sm²), dry mass (604 g), pure photosynthesis efficiency (11,5 g/m²) was obtained.

KEYWORDS: ZEROX Immunostimulant, Bukhara -10, Leaf Surface, Dry Mass, Pure Photosynthesis Efficiency, Three Norms and Different Periods, the Number of Seedlings.

1 INTRODUCTION

It is known that one of the most important issues is the cultivation of high-quality, early maturing products from agricultural crops and increasing resistance to various adverse environmental conditions. In this direction, immunostimulants play a special role in overcoming such problems.

Immunostimulants regulate growth and development, increase the adaptability of plant resistance to stress, increasing immunity to various diseases in nature [1].

Zerex is one of these immunostimulants and has a three-way effect on plants in comparison with other immunostimulants [2]; [3].

First, it gives plants resistance to bacterial and fungal diseases, increases phytoimmunity and regulates the activity of endogenous phytohormones in plants, ensuring growth and development [3]; [4]; [5].

The effect of different planting densities of cotton varieties "Bukhara-10" in the use of different doses and timing of the Zerex3000 mg/l immunostimulant on the leaf surface, dry mass and the productivity of photosynthesis in moderately saline soil in the Bukhara region in the Republic of Uzbekistan has been studied for the first time.

The leaf is the photosynthetic organ of the plant, and its large or small surface area causes an increase or decrease in photosynthetic productivity. It also includes transpiration and biosynthesis of several organic compounds, including the synthesis of phytohormones (auxin, gibberellin, abscisic acid, cytokine) phytohormones also affect pigment biosynthesis [6]. The role of cytokinin is especially important here. He participates in the formation of the leaf and leaf structure. In this case, the cytokine flows from the root to the leaf through the xylem tubes. Such a system ensures the functional activity of the whole organism and the interdependence of all organs [7].

Abdullaev X.A., Karimov X.X. According to the interpretation, the leaf surface area of a plant is directly related to its type, navigation, quality of agronomic activity, the number of seedlings, the type of stimulants used at different rates and at different times and changes in quantity the productivity of photosynthesis [8]. The dry mass of the plant contains about 95% of organic matter, which is formed as a result of the active process of photosynthesis. A large amount of these formed organic substances is spent on the formation of the reproductive parts of the plant. The yield is closely related to the leaf surface, and it is said that in order to obtain a high-quality yield from agricultural crops, depending on the type of crop, the leaf surface should be 45-60 thousand m²/ha [9].

Therefore, the achievement of the optimal level of leaves is one of the important tasks when growing cotton, the surface of assimilation formed by leaves in plants plays an important role in the growth, development and accumulation of dry mass[10]. It was found that this drug increases the productivity of crops [11], germination of plants [12], improves growth and development [13] and increases productivity [14]. But how this immunostimulant affects the productivity of pure photosynthesis in cotton is not well understood.

2 Materials and methods

In 2018-2020 studied the effect of different doses and terms of the Zereximmunostimulant (1.0 – 2.0 – 3.0 l/t; 1.0 – 2.0 – 3.0 l/ha + Surfactant 0,15 l/ha), and leaving 3 different plant densities (80 -90; 100 - 110; and 120 - 130 thousand bushes /ha), on moderately saline soil and climatic

conditions of the Bukhara region in the experimental farm SRISBATCG Bukhara SES, on the surface of leaves, dry weight and net productivity of photosynthesis. Immunostimulant Fitovak was used as a reference - 200 ml/t, ml/ha, and in the control variant, drinking water was used, suspended during the growing season with water and working solutions of Zerox in different doses. The experimental scheme is presented in Table 1.

All analytical and phenological observations in the field and laboratory conditions were carried out on the basis of the "Methodology for conducting field experiments" [15] and a number of other literature developed at Scientific Research Institute for Seed Breeding and Agricultural Technology of Cotton Growing Bukhara Scientific Experimental Station (SRISBATCG Bukhara SES). Mathematical processing of the data obtained was carried out according to the method of B. A. Dospekhov [16].

According to the results of the study, in the 10th variant, when the seeds were treated with Zerox at a dose of 2 l/t and fed from leaves during the growing season and the number of bushes remained at the level of 80-90 thousand pieces per hectare, leaf surface per plant (in the ripening phase) was 11500 sm², in control - 7270 sm².

TABLE 1 EXPERIENCE SCHEME

№	EXPERIMENTAL VARIANTS	Standing density of plants	Application of doses and terms, l/t; l/ha			
			pre-sowing to cotton seed was treated	2 - 4 true leaves	shading	flowering
1	Control	80-90	Seeds were soaked with water	Aboveground organs of cotton were suspended with drinking water		
2		100-110				
3		120-130				
4	Fitovak (standard)	80-90	200 ml/t	200 ml/ha	200 ml/ha	200 ml/ha
5		100-110				
6		120-130				
7	Zerox	80-90	1 l/t	1l/ha+ Surfacc tants 0,15 l/ha	1l/ha+ Surfacc tants 0,15 l/ha	1l/ha+ Surfacc tants 0,15 l/ha
8		100-110				
9		120-130				
10	Zerox	80-90	2 l/t	2 l/ha+ Surfacc tants 0,15 l/ha	2 l/ha+ Surfacc tants 0,15 l/ha	2 l/ha+ Surfacc tants 0,15 l/ha
11		100-110				
12		120-130				
13	Zerox	80-90	3 l/t	3l/ha+ Surfacc tants 0,15l/га	3л/га+ Surfacc tants 0,15л/га	3л/га+ Surfacc tants 0,15л/га
14		100-110				
15		120-130				

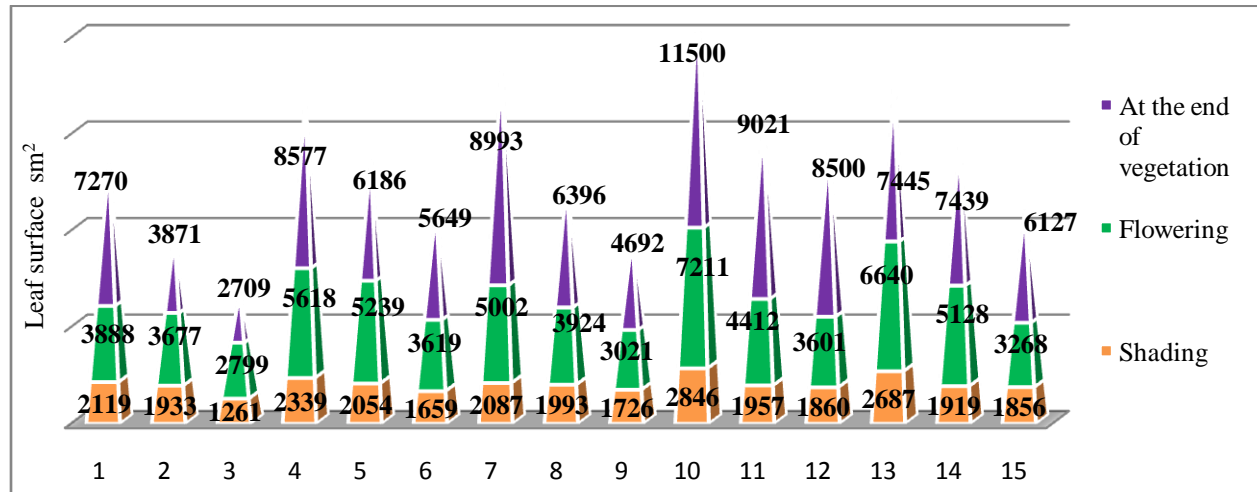
Comparing variant 10 with variant 1, it was found that the leaf surface in variant 10, the plant density of which was 80-90 thousand bushes per hectare, was 4230 sm² more than in variant 1.

3 Result and discussion

Also, with a plant density of 80 - 90 thousand bushes /ha, the leaf surface was 8993-7445 sm^2 in options 7 and 13, where Zerox 1 - 3 l/t, l/ha was applied (Diagram).

Thus, the highest result of the 15 options on a sheet surface was obtained by Zerox at 2 l/t; 2 l/ha + surfactant was observed in variant 10, leaving the number of bushes 80-90 thousand bushes / ha, and (pre-sowing seed treatment) at a rate of 2 l/t (feeding leaves during the growing season) 2 l/ha + surfactant 0,15 l/ ha, the use of the optimal dose of the immunostimulant has a positive effect on the physiological processes of the plant [17].

Diagram The effect of different planting densities of cotton varieties "Bukhara-10" in the use of different doses and timing of the Zerox on the leaf surface dry matter, leaving 3



Different plant densities (80-90; 100-110; and 120-130 thousand bushes /ha) of cotton of the Bukhara-10 variety, the following three-year results were obtained. At the same time, the greatest result from different plant density in the control variant was obtained in variant 1 - 80 - 90 thousand pcs.

Bushes /ha. So, in all variants, left per hectare for 80-90 thousand pieces' shrubs hectares' accumulation of dry matter was greater than other options.

Table 2 provides data on dry weight, leaf area and photosynthetic productivity.

Also, when using different norms and density of standing of cotton, the most positive result on dry weights was observed in the Zerox variant with a consumption dose of 2 l/t, and 2 l/ha, it was 604 g, compared with the application of Zerox at 1 - 3 l/t, 1 - 3 l/ha was, respectively, 156-239 g more.

According to the scheme of the experiment, the number of bushes per hectare was 80-90 thousand pieces, on the optimal version of Zerox, which was used at - 2 l/t, 2 l/ha + surfactant in the phase ripening 302 g of dry matter accumulated more in comparison with the 1st control variant of the same number of bushes. As a result, when comparing the control option with the criterion of mathematical accuracy in the studies, it was found that there is a significant difference between them.

Thus, it was found that the optimal rate of application of the Zerox immunostimulant in different doses due to one plant is the maximum level of dry matter when applied in an amount of 80-90 thousand bushes/ha.

Table 2 The use of the Zeroximmunostimulant at different rates and timing and different plant density of the bushes on the medium-fiber cotton variety Bukhara-10, on the effect of the leaf surface, the accumulation of dry matter and the productivity of photosynthesis, (average 3 years).

τ/p	Variants of experiment and applied doses	Density of standing of plants	Dry mass in the phase of emergence in 2-4 infusions sheet surface in (B ₁), g	Dry mass in the ripening phase in (B ₂), g,	Dry mass in the ripening phase during 90 days (B ₂ -B ₁)	Leaflet surface, m ²		Pure productivity of photosynthesis, g/m ²
						In the beginning of vegetation (L ₁)	At the end of vegetation (L ₂)	
1	control	80-90	1,0	302	301,0	0,00695	0,7270	9,1
2		100-110	1,2	157	155,8	0,00437	0,3871	8,8
3		120-130	1,0	106	105,0	0,00381	0,2709	8,5
4	Fitovak 200ml/t; 1/ha	80-90	1,4	411	409,6	0,00605	0,8577	10,5
5		100-110	1,0	292	291,0	0,00608	0,6186	10,3
6		120-130	1,3	250	248,7	0,00497	0,5649	9,7
7	Zerox 1 l/t 1/ha	80-90	1,5	448	446,5	0,00559	0,8993	10,9
8		100-110	1,5	302	300,5	0,00380	0,6396	10,3
9		120-130	1,5	211	209,5	0,00381	0,4692	9,8
10	Zerox 2l/t 1/ha	80-90	1,9	604	602,1	0,00916	1,1500	11,5
11		100-110	1,5	421	419,5	0,00690	0,9021	10,2
12		120-130	1,3	373	371,7	0,00603	0,8500	9,6
13	Zerox 3 l/t 1/ha	80-90	1,5	365	363,5	0,00768	0,7445	10,7
14		100-110	1,5	340	338,5	0,00653	0,7439	10,0
15		120-130	1,2	274	272,8	0,00606	0,6127	9,8
	S_x							0,12
	HCP₀₅							3,9 %

The net photosynthetic productivity of a plant depends on the level of the leaf surface and the amount of dry matter. According to the results of a three-year study, the largest amount of leaf surface, with a high dry matter content and net productivity of photosynthesis was found in the variant with the use of the Zeroximmunostimulant at the rate of 2 l/t, and 2 l/ha. Indeed, depending on the number of bushes left per hectare, treated with Zerox in different doses before sowing (1-2-3 l/t) and during the growing season (1-2-3 l/ha + surfactant 0,15 l/ha) periods of Zerox applied at 2 l/t, and 2 l/ha + surfactant 0,15 ha, leaving 80 -90 thousand pieces of the productivity of photosynthesis in option 10 and left with the same number of bushes per hectare with 1-control and other tested options were higher than compared with 2-3-control options, which were left for 100-110 and 120-130 thousand bushes /ha (table 2).

4 CONCLUSION

In short, you can summarize the plant density of cotton varieties "Bukhara-10" for 80-90 thousand bushes/ha and with seeds before sowing with Zeroximmunostimulants at the rate of 2 l/t, and suspending during the growing season at 2 l/ha + surfactant 0,15 l/ha in the 10th variant,

the main reason for the maximum growth and development, the amount of leaf surface, the accumulation of biomass, in the development of cotton fiber and an increase in the productivity of photosynthesis is related to the fact that the optimal dose of the Zeroximmunostimulant was determined from a scientific point of view.

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MICHAEL FARADEY, THE PRODIGAL, AND ABOUT HIS SCIENTIFIC HERITAGE

Yusup Ganievich Makhmudov*; Bokhodir Abdusamatovich Mirsalikhov**

* Professor,

Doctor of Pedagogical Sciences,
 Department of "General Physics",
 Termez State University, Termez, UZBEKISTAN

** Associate Professor,

Candidate of Physical and Mathematical Sciences,
 Department of "Physics", Tashkent Transport University,
 Tashkent, UZBEKISTAN

ABSTRACT

The article presents information about the multifaceted, fruitful scholarship of Michael Faraday, his World scientific heritage. The unique efficiency and purposefulness of Michael Faraday amazed scientists. "He was the greatest of those who studied electrical phenomena until our time", admitted one of the outstanding scientists of the XIX century. The scientist, who is used to making discoveries wherever he stretches his extraordinary hands, has been trying to get free fluorine for almost 50 years. Unfortunately, this problem is it remained the only work that M. Faraday could not cope with during his lifetime. Since ancient times, mankind has observed and studied the processes associated with electrical phenomena. The ancient Greeks, noticing the property of amber to attract light objects when rubbed into silk fabric, called it electronic.

KEYWORDS: Synthesis, Photochemistry, Reaction, Stereochemistry, Electricity, Electrolysis, Electrolyte, Electrode, Solution, Phenomenon, Process, Ion, Anion, Cation, Electroplating, Electroplating, Civilization, Electrochemistry, Method.

INTRODUCTION

Despite the fact that almost 215 years have passed since the birth of the great English scientist, naturalist and researcher, as well as the outstanding thinker Michael Faraday, there are still disputes about the phenomenon of this breed.

The fact is that many recognized him, first of all, as a physicist. Although there is no area in which this multifaceted mind would not be at hand and would not be interested in counting. On

this basis, looking at the part of Michael Faraday's activity that is associated with an extremely active chemical element-fluorine, one can find evidence that he was gifted with a wide range of talents. Although the beautiful-looking natural mineral of fluorine-calcium fluoride (fluorite) has been known to mankind since time immemorial, the calcium content in it is represented as a pure metal. Since Faraday's friend and his compatriot Humphrey Davy isolated liquids by electrolysis in 1808, obtaining free fluorine has long been a matter that no one could afford.

The scientist, who is used to making discoveries wherever he stretches his extraordinary hands, has been trying to get free fluorine for almost 50 years. Unfortunately, this problem is it remained the only work that M.Faraday could not cope with during his lifetime. As for the role, it is also worth noting that the young French chemist Henri Moissan (1887), who successfully solved this issue, which a large number of researchers could not solve, achieved that his name was inscribed in golden letters in the history of science, and in 1906 received the Nobel Prize in Chemistry.

Anyway, Michael Faraday became famous all over the world as a man who made a number of universal discoveries. His research works have contributed a valuable share to the gold reserve of natural science disciplines. He was an outstanding scientist of the XIX century, whose name was mentioned above, a brilliant experimenter and the founder of such a subtle and extremely useful branch of science as electrochemistry. He was a worthy disciple of Davy.

The question of which of the names of a physicist or chemist deserves Michael Faraday in exchange for his work, of course, interests many. In our opinion, even the famous scientist himself could not answer this more illogical question in his youth. Let's turn to the facts.

Michael Faraday established the chemical composition of limestone, studied iron alloys, studied the effect of various additives on the quality of steel, was the first to obtain substances such as chlorine and hydrogen sulfide in a liquid state, also converted oxides (IV) of elements such as nitrogen and sulfur and carbon into a liquid state, discovered benzene and isobutylene, synthesized naphthalene sulfuric acids. In the field of research of catalytic and photochemical reactions, Michael Faraday was also one of the first. I found out the composition of the natural rubber monomer. He performed a number of works to improve the quality of optical glass. Having determined the phenomenon of rotation of the plane of polarized light under the influence of a magnetic field, this creature made a huge contribution to the development of stereochemistry. The results of Michael Faraday's chemical experiments are reflected in his famous book "chemical manipulations".

Michael Faraday discovered the quantitative laws of electrolysis. The first of them is the law of proportionality of the amount of substances released on the electrodes to the electrical amount passing through solutions or liquids of electrolytes. The second is the law that the ratio between the quantities of various substances released under the action of the same amount of electric charge is similar to their chemical equivalents in relation to each other.

The scientist was interested in such a mysterious and unknown force as electricity. This force, created by the movement of a conductor in a magnetic field, its decomposing effect on substances and properties that turn a piece of metal into a Magnet, was considered a mysterious phenomenon.

Michael Faraday's classical research work in the field of electromagnetism led to the fact that he was rightfully recognized as the founder of the doctrine of the electromagnetic field. In his article

“on some new electromagnetic motions and the theory of magnetism”, he was able to give a scientific justification for the processes of converting electrical energy into mechanical energy. Michael Faraday “the medium around the conductor has special properties, an electromagnetic field is created in it. Its intensity can be explained by the action of electromagnetic force lines” he wrote. He was one of the first to discover the laws of electromagnetic induction, explain the phenomena of Dia- and paramagnetism, and introduce the concepts of permittivity into science.

Since ancient times, mankind has observed and studied the processes associated with electrical phenomena. The ancient Greeks, noticing the property of amber to attract light objects when rubbed into silk fabric, called it electronic. The term electricity also competes with this word. The content and essence of electricity remained a mystery for a long time. The first theories explaining the significance of electrical, electrochemical, bioelectric and many other phenomena began to be put forward in the middle of the eighteenth century. A tireless politician, a talented diplomat, who received the nickname “the man who takes away lightning from the gods and power from tyrants” for the invention of the lightning rod, Benjamin Franklin put forward the idea that electricity should be a separate material carrier. He came to the conclusion that the matter of any body has material units of electricity, which are tiny, light and easily break down. M. V. Lomonosov, however, came to the conclusion that there is a relationship between chemical and electrical phenomena. He wrote that “given that chemistry correctly explains the inner world of bodies, it is this science that can also reveal the nature of electricity”.

An Italian naturalist While L. Galvani studied the effect of electric current on the muscle tissues of animals, his compatriot, university professor A. Volta created an electric current source using pairs of two different metals. The English scientist G. Davy was the first to isolate alkali metals, such as potassium and sodium, by electrolysis. Using this method, he identified five more new elements. These were the elements-barium, calcium, strontium, magnesium and boron.

Swedish scientist Ya. Bersenev explained electrolysis as a phenomenon consisting of an opposite-polar electrochemical dualism of complex substances. Bersenev's idea that tiny particles of electricity, called atoms, are part of chemical compounds, was of great importance for chemical science. It became possible to explain the nature of chemical reactions and the relationship between chemical and electrical phenomena only after the classical studies of Michael Faraday related to the processes of electrolysis.

Despite his painstaking childhood, Michael Faraday read and studied a lot. After reading the section “electricity” of the Encyclopedia Britannica, he realized that this phenomenon has a very mysterious and hidden nature, and believed that subordination to this power could bring great benefits to humanity. A book called “Conversations about Chemistry”, written by the wife of a London doctor, Marsit, further fueled Michael Faraday's passion for this experimental science. After reading this book, he told his mother: “Today I discovered another interesting and amazing science-chemistry. I really enter into his mysterious world”, he said. The results of numerous experiments were reflected in his book “experimental studies of electricity”, and in January 1833 he reported this to the Royal Society. It was dominated by the idea that, since the material carriers of all types of electrical phenomena, regardless of their origin, are the same, not all of them can be the cause of such changes as physiological, chemical, magnet-forming, light-emitting, mechanical.

The hardworking scientist performed more than 300 experiments in a short time, studied the products of electrolysis of more than 130 substances. In January of the following year, he

informed the same society about his work related to electrolysis. The members of the society recognized the abilities and talent that were inherent in their colleague. Because the world has only recently learned that, thanks to Michael Faraday, there is an induction current and that an electric current can be created from magnetism. Now contemporaries have become aware of new discoveries – the laws of electrolysis.

Michael Faraday determined the numerical value of the electrochemical equivalents of 18 anions and 36 cations. A number of new electrochemical terms proposed by Michael Faraday entered the history of science and were sealed forever: electrolysis (from the Greek – decomposition under the action of electricity), electrode (electric path), cathode (way down), anode (way up), Ion (marching), electrolyte (substance or solution undergoing electrolysis), anion, cation, dielectric and many others.

The unique efficiency and purposefulness of Michael Faraday amazed scientists. “He was the greatest of those who studied electrical phenomena until our time”, admitted one of the outstanding scientists of the XIX century. This scientist always brought the work started to the end. The motto of his scientific work was –“work, complete and publish”. He answered the secret of his success with the following phrase: “very simple: I studied and worked all my life, worked and studied”. Three units of measurement have been adopted in his honor: the Faraday is the main unit of measurement of electric power in the international system of measures; Faraday is an off-system unit of measurement of an electrical quantity; Faraday number (magnitude) is an electrical quantity (96510 coulombs) that releases one mole of a substance on the electrodes when it is passed through the electrolyte.

The laws of electrolysis, the work of electric current, redox reactions occurring under the influence of electricity, electrochemical transformations of substances and other types of physico-chemical transformations that underlie most chemical and metallurgical technologies are associated with the name and works of Michael Faraday. The creation and application of electroplating cells, electroplating and electroplating, fuel cells and batteries is associated with the laws of electrolysis and the practical application of electrical phenomena. The role and significance of Michael Faraday's works in the life of mankind, which has reached civilization, were appreciated by the outstanding physicist A. G. Stoletov predicted: “for all the time that has passed since the Galilean times, the world has not seen any such amazing, diverse and amazing discoveries coming from one head (head), and probably will not see another Michael Faraday soon...”.

The connection and connection between electrical phenomena and chemical changes has become the subject of study of an important section of physical chemistry – electrochemistry. He studies the changes of molecules under the influence of electric current, and his electrochemical methods are at the heart of industrial processes that provide the most important products needed by humanity.

In 1836, academician of the Russian Academy of Sciences B. S. Jacobit the first example of practical application of electrochemistry on an industrial scale was the electroplating method developed by for transferring relief copies from primary sources. In subsequent periods, practical electrochemistry provided extensive and useful services in various sectors of the national economy.

Electrochemical transformations are especially widely used in the metallurgical industry. Production of non-ferrous metals from ores (copper, zinc, cadmium, etc.), electrolytic

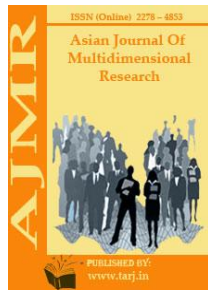
purification (refining) of metals obtained by the liquid method (silver, gold, nickel, lead, tin, etc.), electrolytic deposition of electroplating coatings from metals and their alloys used for decorative and antifriction purposes (chrome plating, nickel plating, gilding, silvering, coppering, etc.), electrolytic deposition (chrome plating, nickel plating, gilding, silvering, etc.) aluminum, magnesium, sodium, complex liquid and other metals and alloys and fluorine production of liquid compounds by electrolysis, such works as the production of hydrogen, oxygen and heavy water in industry by electrolysis of water; the production of chlorine, alkalis and other valuable products in exchange for the electrolysis of aqueous solutions; the creation of chemical sources of electrical energy are vivid examples of the use of electrochemical reactions on an industrial scale.

New methods for the preparation, identification, purification, isolation and research of substances such as electrosynthesis, electrophoresis, electrodialysis, electrotachyl, etc., have also appeared and are rapidly developing thanks to the practical application of electrochemistry. The possibilities of electrochemistry in creating waste-free and low-waste technologies and ensuring environmental protection are especially great. All of the above is directly or indirectly related to the name of the great talent of Mikhail Faraday.

The use of the scientific, creative, theoretical and practical heritage of selfless and fruitful people who laid the foundation of the scientific building of these sciences in transmitting information about two branches of natural science, such as chemistry and physics, to the consciousness of the younger generation, firstly, is compliance with the principle of historicity of teaching, and secondly, serves to realize the duty to the spirit of great people.

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ETHNIC AFFINITIES OF KAZAKHS AND KARAKALPAKS

Tajetdinova B.N*

*Teacher,
Karakalpak State University,
UZBEKISTAN

ABSTRACT

In the lower reaches of the Amudarya and Syrdarya, there are oases - the centers of an ancient sedentary civilization. On the periphery of the oases there are desert and semi-desert areas: the western part of the Kyzylkum desert, the northern part of the Karakum desert, the eastern part of the Ustyurt plateau, as well as the northern coast of the Aral Sea. The northeastern limits of the Aral Sea area enter a part of the Turan lowland adjacent to the Aral Sea [1, 34].

KEYWORDS: *Ilbars and Bilbars, Middle Ages, Berke and Sheibani, Chingizids, Uzbeks, Khorezmians, Arabs, Yaik, Mawarannahr, Syrdarya.*

INTRODUCTION

The ancestors of modern Uzbeks, Turkmens, Karakalpaks and Kazakhs lived in these natural-geographical conditions since ancient times.

Khorezmians appeared on the historical arena very early. They are mentioned in the Avesta (first half of the 1st millennium BC). Numerous conquerors who repeatedly invaded the territory of the Khorezm oasis for a long time had a huge impact on the ethnic composition and culture of the Khorezmians. V.V. Bartold wrote: "The Arabs found a peculiar population here, which stood out among the inhabitants of the surrounding regions by their clothes and spoke a special language, incomprehensible to others, and this language was used in written documents" [2.77].

THE MAIN FINDINGS AND RESULTS

In the 16th centuries in the late Middle Ages, after the collapse of the Golden Horde in the Aral Sea region, a significant part of the Uzbeks moved from the north and mixed with the Iranian-speaking population of Khorezm. Ethnic composition of the Golden Horde Uzbeks was much closer to the Aral Karakalpaks and Kazakhs, although they are part of the Uzbek people.

The appearance of Uzbeks in Khorezm is associated with the names of Sheibani Khan, the grandson of Abulhair [3,75], and the sultans Ilbars and Bilbars, the sons of Berke Khan, who moved to Khorezm in 1511 "with their houses and people" [4,174].

Berke and Sheibani were Chingizids by origin, direct descendants of Jochi. Their ancestors Ibrahim and Arab Shah together “roamed and had their own camps, in the summer they lived at the top of Yaik, and in the winter at the mouth of the Syr” [4, 162].

After the conquest of Mawarannahr, Sheibani Khan with his associates left their possessions on the river. Syrdarya and penetrated deep into Central Asia, and Berke Khan with adherents settled on the Syrdarya [4, 172]. His two sons, Ilbars and Bilbars, moved to Khorezm and formed an independent khanate, which included the local residents of Khorezm. They gradually mixed with the migrated Uzbeks, adopted their language, customs and rituals, and completely assimilated.

“Subsequent reports about the 16th century Uzbeks in Khorezm concern the internecine struggle for power between the sultans - the descendants of Berke Khan, their raids on Khorasan, Astrabat and the Caspian regions, on Abulkhan and Mangyshlak” [5, 321-322].

In the first half of the 17th century, the Uzbek tribes moved from the lower reaches of the Syrdarya to the Amudarya delta and from there settled in the southeastern part of Khorezm. However, around 1665, “Uzbeks began to gather from everywhere and settled in the Aral area on the shores of the Aral Sea.” [6, 326] This information is confirmed by Abulgazi: “At the place where the Amudarya flows into the sea, three thousand Uzbek families gathered there at different times, five or ten” [4, 260].

Sources of the 17th century report on the development of the lower reaches of the Amudarya by the Uzbeks, where the two centers of Kungrad and Shakhtemir were formed, which became the capitals of the Aral domain of the Uzbeks. In the fall of 1740, Abulkhair khan of the Younger Zhuz was in the Aral possession, its second center, the city of Shakhtemir after Kungrad [7, 23]. Consequently, in the first half of the 18th century. The Aral estate functioned as an independent administrative division. In 1741 Gladyshev and Muravin reported:

“In the Aral possession there are four tyube, and in them 32 clans, and in those clans there are two cities with the local elders and beks. 1. Mangut clan of the city of Shah-Temir; 2. In the Kungrad clan there is another city. 3. Kypchak clan; 4 The Khozha-ilin clan. Other small clans are reported to the four tyuby shown, a total of forty thousand per clan sits on a horse” [8,20].

From the data presented it is clear that the Uzbeks settled in the lower reaches of the Amudarya by tribal and clan characteristics. The Mangyts were grouped in the right-bank delta, and the Kungrads in the left-bank delta of the Amudarya. The Kungrad tribes were formed near the city of the same name. As for the Kypchak tribe, then and now it settled above the Amudaryadelta. Its center is the village of Kypchak, and the center of the Khojeyli Uzbeks was the city of Khojeyli, located on the left bank of the Amudarya.

E.I. Velichko wrote in 1803: “The Kungrad clan, consisting most of the Uzbeks ... is also called the Aral by its nomad camps near the Aral lake and the cities of Mangyt and Kypchak with the Uzbek population. He also says that” The inhabitants of this people are more than 100 thousand” [9, 115- 117].

Back in the middle of the 19th century, the Turkmen began frequent clashes with the Kazakhs who roamed in these places. During mutual raids and clashes, Kazakhs and Turkmens stole cattle, seized property. To protect families and livestock, the Turkmen began to build adobe fortresses, inside which they themselves hid and sheltered livestock at night and during the attack of the Kazakhs.

A significant ethnic group of the Khorezm oasis is made up of the Karakalpaks. Most of them occupy the territory of the northern coast of the Amudarya delta. Information related to 1598 is known: "The Karakalpaks are mentioned in one of the letters of honor of the Bukhara khan Abdula when listing the nomadic and semi-nomadic peoples who inhabited the vicinity of the city of Sygnak in the lower reaches of the Syrdarya river" [10, 3]. Khiva Khan Abulgazi in the "Genealogical tree of the Turks", describing the events of 1623, also writes that the Karakalpaks live in the lower reaches of the Syrdarya. In Russian sources of the 17th century, this people appears as an inhabitant of the lower reaches of the Yaik, Ural, Emba and the banks of the lower Syrdarya. The ambassadors of Peter I to the Kazakh khan Tauke F. Skibin and M. Proshin in SemyonRemezov's atlas "Drawing book of all Siberia" mention the habitat of the Karakalpaks near the mouth of the Syr Darya [11, 110]. More reliable information about the Karakalpaks living in the lower reaches of the Syrdarya is given by historical sources (Gladyshev, Muravin, Rychkov, etc.). Khiva historians Mohammed Mirab Munis and Mohammed Riza MirabAgehi also provide valuable information about the SyrdaryaKarakalpaks.

Karakalpaks in the 16th - 18th centuries were part of the Golden Horde, after the collapse of which they entered the Uzbek Khanate and were resettled from Yaik (Ural) to the lower reaches of the Syrdarya. In subsequent periods, they gradually concentrated in the middle and lower reaches of the Syrdarya. According to ethnographers, in the lower reaches of the Syrdarya, the toponymic names of the Karakalpaks have been preserved: Nansai, Karakalpak-zharma (channel), etc.

In this regard, T.A. Zhdanko writes: "However, by the end of the 18th - beginning of the 19th centuries, only a small part of the Karakalpaks remained in the lower reaches of the Syrdarya. The bulk of them moved to the west, to Zhanadarya, was conquered by the Khiva khans and moved to the lower reaches of the Amudarya" [10, 4]. Khiva historians Munis and Agehi write about the history of the Karakalpaks of this period [12].

The bulk of the Karakalpaks in the 17th - 18th centuries, was located in the middle and lower reaches of the Syrdarya, lived mixed or coexisted with the Kazakhs in the Aral Sea region. In the XVIII century. The Karakalpaks, who lived in the lower reaches of the Syrdarya, were part of the Younger Zhuz and depended on it economically and politically. "The Karakalpaks had to annually pay the Kazakhs a significant tribute in bread, deploy horse troops, participate in raids on the Russian border regions and on the neighboring states of Bukhara and Kokand, collect duties for the Kazakh khans from the caravans passing through their territory" [13, 24].

Such a political and economic connection existed between the Kazakhs and the Karakalpaks in the 18th century, when both peoples fought together with the Dzungars. Bukharzhirau, praising the heroic struggle of the batyrs (braves) against the Dzungars, spoke about the Karakalpak batyrKulashbek [14, 27].

In the 20s. XVIII century after the capture of the middle reaches of the Syrdarya by the Dzungars, the Karakalpaks were divided into two parts "lower" and "upper". The "upper ones" fell into political dependence on the Dzungars, and the "lower ones" were part of the Younger zhuz of the Kazakhs. L.S.Tolstova writes about this: "In the years immediately after the Dzungar invasion, some, probably insignificant part of the" upper "Karakalpaks, together with the Kazakhs, penetrated into the valley of the Zeravshan River and into the Fergana valley. But the bulk of the "upper" Karakalpaks continued to live, as evidenced by the sources, on the middle

reaches of the Syrdarya, from the city of Turkestan to Tashkent and to the south of it, and was dependent on the Dzungars” [15, 19].

From the second half of the 18th century. Khiva khans pursued a cruel policy towards the “lower” Karakalpaks, organizing military campaigns against the Zhanadarya and Kuvandarya Karakalpaks. “In 1810, as a result of several military campaigns, Khan Muhammad-Rakhim completed the subordination of the Aral Karakalpaks and conducted thorough military and diplomatic training in Zhanadarya. By persuasion and threats, he managed to achieve a peaceful period under the rule of Khiva, two clans of Karakalpaks, led by biys. At the end of 1810 The power of the Khiva Khan was recognized by the Karakalpaks who remained in Zhanadarya” [13, 27]. Thus, the “lower” Karakalpaks were finally conquered by the Khiva khans in 1810. Before the conquest of the Khiva Khanate by Russia, the Karakalpaks, Uzbeks, and Turkmens were part of the Khiva Khanate.

The Karakalpaks, like the Kazakhs, retained their tribal structure. The tribal system of the Karakalpaks of the lower reaches and the delta of the Amudarya was based on the division into two parts: *aysol-tortru* and *ayskongrat*. *Arysol-tortru* was divided into four tribes: Kytai, Kypshak, Keneges, Mangyt, which settled on the right bank of the Amudarya, in the basin of the Kegeili canal. In 1901, out of 72,050 people. only 5,000 ol-tartru lived on the left bank of the Amudaryawithin the Khiva Khanate [16, 37].

Aryskongrat was divided into two parts - *shulluk* and *zhaungyr*. “The bulk of the population belonging to this department was concentrated in the northern part of the delta, on the lands adjacent to the Aral Sea, as well as on the left bank of the Amudarya, in the Kungrad and Chumikeevsky (Shumanai) backstates of the Khiva Khanate. According to Girshfeld and Galkin, in 1901 of the total number of 42,000 Karakalpaks, there were 27,400 Kongrat in the Amudaryadepartment, and 14,600 in the Khiva Khanate” [16, 38].

According to the census of 1897, 93,215 Karakalpaks lived in the Amudarya department of the Syrdarya region, 11,056 in the Fergana region, and 20 thousand people in the Khiva Khanate [17, 390].

As can be seen from the data presented, a small Karakalpak people, but their numbers, are scattered among the Kazakhs, Uzbeks, and Turkmens. Meanwhile, he retained his national identity and state independence in the Aral Sea region.

T.A. Zhdanko paid much attention to tribal divisions of the Karakalpaks in her long-term ethnographic research “Essays on the historical ethnography of the Karakalpaks”, the author describes in detail the tribal division of the Karakalpaks and their places of settlement and numbers. Here are some excerpts: “Turning to the consideration of the structure of the settlement of individual tribes Arys on Tort Uru (ol-tortru), it should be noted, first of all, the absence of definite boundaries between the lands of the Kenges and Mangyts, the land plots and irrigation ditches of the Ktai tribes are interspersed with the possessions of the Kipshak clans...

The Ktai tribe consists of 12 clans: 1) the demon of Sarah; 2) beksiyk; 3) kaz-ayakly; 4) kayshily; 5) anna; 6) kuyyn; 7) ayteke; 8) sherushi; 9) aralbay; 10) manjuli; 11) bokly-ktai; 12) kyrk. The tribe had a common for all clans tamgy-shomysh (ladle) and uranium (battle cry) “Ultau!” the number of Ktais, according to 1912 data, is about 25,200 people.

“The Kypshak tribe includes 14 clans. The Kypshak clans are as follows: 1) Kangly; 2) Sang-Muryyn; 3) Estek; 4) Kanzhigaly; 5) Shupak; 6) Basar; 7) Tolys; 8) toads; 9) aryk; 10) zhagaltai;

11) baganals; 12) mayly-bnlta; 13) zhadik; 14) saltyr. The total number of the tribe, according to 1912, is about 9,200 people”.

“The Keneges tribe includes 8 clans: 1) Aranshi; 2) Ak-togyn; 3) Omyr; 4) Tarakly; 5) Dobal; 6) Oymaut; 7) Dombazak; 8) Nokis. Their number in 1912-1913 reached 8 601 people; the tribe was settled in two volosts: Yany-Bazarskaya (62.4%) and Kegeilinskaya (37.6%).

Mangyt consists of 19 genera, divided into four groups; a) karatai clans: kara-mangyt, kara-sirak, ak-mangyt, mamykshi, kosar, kylkaly; b) Sary-tai clans: Arshan, Zhanlyk, Tok-Mangyt, Arsary, Taz-Zhallyk, Shuyit, Zhansha, Esebi, Tamgaly, Tong-Moyyn, Temir-Hajja; c) boztai; d) zhetimtai, genus eshbug. The total number of the Mangyt tribe was expressed in the figure of 11 791 people, of which about 70% lived in the Kegeilinsky volost”.

The tribal structure of the Ars Kongrat is divided into two parts, Shuluk and Zhaungyr. The Shuluk branch includes 8 tribes: 1) kiyat; 2) ashamayly; 3) koldauly; 4) kos-tamgaly; 5) balgals; 6) candelabra; 7) kara-moyyn; 8) muyten.

The division of the zhaungyr is made up of clans (not tribes): 1) Teris-Tamgaly; 2) bakanly; 3) vice; 4) yrgakly; 5) baymakly; 6) kaz-ayakly; 7) uygyr.

About the number and settlement of clans and tribes AysKongrat in the XIX - early XX centuries. exact data are not available, since a significant part of them are located on the left bank of the Amudarya, within the Khiva Khanate, where no censuses or statistical surveys were carried out.

CONCLUSION

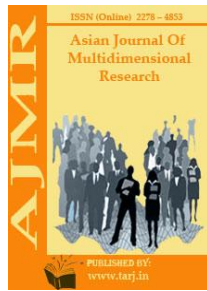
From the excerpts from the book of T.A. Zhdanko, it is easy to see that many names of the tribes and clans of the Karakalpaks are similar to the Kazakh names of the clan-tribal structure. This similarity is not accidental. In ancient times and in the Middle Ages, these Turkic ethnic groups lived in the neighborhood or mixed in a certain territory. Some of these tribes and clans were included in the formation of many Turkic-speaking peoples, including the Kazakhs and Karakalpaks. In terms of language, customs and rituals, material and spiritual culture, the Karakalpaks are very close to the Kazakhs. This does not give grounds to consider Kazakhs and Karakalpaks as one people. When we carefully study the history, material and spiritual culture of the Karakalpaks, then it is not difficult to notice ethnic features. In ethnic history, these two peoples are close to each other and they have much in common in material and spiritual culture.

Today there are favorable conditions for the study of ethnic ties between Kazakhs and Karakalpaks. Of particular importance is the study of Kazakh and Karakalpak clans and tribes, their origin, because they have been settling clans and tribes for a long time, creating an original material and spiritual culture.

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IMPORTANT ASPECTS OF HUMAN CAPITAL MANAGEMENT

Nilufar Juraevna Nurimova*

*Independent Researcher,
Institute for the Study of Youth Problems and Training of Prospective Personnel,
UZBEKISTAN

ABSTRACT

This article examines the specifics of human capital management and the growing importance of the human factor as capital. In particular, the problems of human capital development in the modern economy were studied, as well as recommendations for their effective uses in the economy were developed.

KEYWORDS: *Human Resources, Human Capital, Human Capital Management, Investment In Human Capital.*

INTRODUCTION

Today, the development of the world's leading countries is characterized by the stage of innovative development of industry; the role and change of economic growth factors are assessed by the human factor. Factors of scientific and technological progress have been added to the traditional factors of labor, land and capital, and information and knowledge are becoming the most important resources. Innovative economy is formed on the basis of direct intellect, and man and his potential serve as a decisive force in the economy.

In general, in the world practice, targeted scientific research has been conducted to provide a scientific solution to the human factor and a number of problems in its activation, including systematic study of efficiency factors of human capital development, theory and practice of efficient use of human resources.

The theory of the formation and management of human capital has been expressed by economists at different times with different views, but we see that the specifics of human capital management have been studied separately and its important aspects have not been systematized. Therefore, the study of important aspects of the growing importance of the human factor as capital is one of the most pressing issues today.

For the purpose of this article, first of all, it is expedient to study the evolution of the formation of the concept and theoretical basis of "human capital" and the views of scientists in the field.

The theory of human capital management has been expressed by economists with different views at different times, and today human ability is seen as a source of multifaceted creativity and endless possibilities. In this regard, the views and specificity of the growing importance of the human factor as capital are different.

The concept of “human capital” was formulated as an independent theoretical view in the 1960s by professors at the University of Chicago, T. Schultz and G. Becker. Human capital is formed through human investment in the form of expenditures made to collect information on education, training in production, health, migration, price and income [1].

Since the theory of human capital is devoted to the elucidation of very complex and multifaceted processes, there are many approaches in defining its essence. They can be conditionally divided into two main groups: **First**, the idea that human capital is the sum of all the productive qualities of an employee.

L. Turou defined human capital as “the ability of an individual to create goods and services”, “his productive ability and knowledge”. U. Bowen interpreted human capital as the sum of knowledge, skills, motivations, and energies that are given to humans and can be used to produce goods and services over a period of time [2].

S. Fisher, R. Dornbush, K. Schmalenzi Human capital is described as “a measure of income that is reflected in man” [3].

The second scientific approach is complemented by “investing” in human capital. F.Makhlup expresses his approach to human capital as follows: “As a result of investments that increase the physical and mental abilities of man, he distinguishes imperfect labor from perfect labor. Such a process of perfection in itself constitutes human capital”[4].

The fact that today's attitude to human capital has changed in relation to the views of the twentieth century, as well as theories about the human factor and the formation of capital in it has reached a completely new stage.

THE MAIN FINDINGS AND RESULTS

The effective use of human capital and its study as a science began in the second half of the twentieth century. The human factor has also served as a decisive force in various circumstances and crises.

During the years of World War II, life itself set a very important task for the human resources department of industrial enterprises (especially in the United States and the United Kingdom), recruiting and training hundreds of thousands of new employees in all professions. The “productivity management” that emerged at the beginning of the XXI century was further developed, the essence of which was to develop methods of work and plan the number of workers on the basis of economic indicators, i.e. the product produced per unit of time, profits.

In the 60s and 70s of the twentieth century, American business schools expanded their curricula by including subjects related to human resources, such as industrial psychology, organizational behavior, and personnel management. Over the years, human resource planning has evolved from an episodic exercise to a formal organizational process, with which companies have identified their long-term workforce needs.

In the late 1970s, specialized organizations for human resource planning were established in developed countries, including the Society for Human Resource Planning in America. With its

research, this society has greatly influenced the development of “personnel management theory and practice”.

As a result of the acceleration of scientific and technological progress in the 90s, the expansion of markets and increased competition, the following new tasks were assigned to specialists in human resource management:

- Ensuring that the level of qualification of employees meets the strict requirements of the modern economy;
- Controlling rising labor costs in developed countries and maintaining the competitiveness of the social support system;
- Finding ways to support the connection of employees who work outside the company and develop a sense of belonging to the organization.

At the same time, education, the formation and accumulation of practical experience, health care, and information retrieval constitute an investment in human capital. At the same time, education and training, vocational training increase the level of knowledge, that is, serve to increase the amount of human capital.

Of course, in modern economic dictionaries, capital is broadly defined as everything that brings income, or resources created by people to produce goods and services, while in the narrow sense it is called a source of income that is employed as a means of production.

In the last decade, there has been a growing focus on the development of human capital, which is an integral part of national wealth. These include social protection, human health, improving family relationships, improving the functioning of neighborhood institutions, and radical changes in the education system.

The development of human capital is essential for the stability of humanity, the economy, societies and the world. This is also important for future generations. When countries fail to invest effectively in human capital, there are huge costs, especially for the poor. These costs will put future generations at a disadvantage. The inability to create the conditions for citizens to live effectively due to technological advances that require large expenditures is not only accompanied by high costs, but also leads to serious inequalities. This also poses a threat to security, as unmet requirements can lead to unrest.

In this regard, countries that do not make regular investments in human capital will be forced to eliminate tax deficits and exceptions, improve revenue collection, and redirect spending. For example, Egypt and Indonesia have sharply reduced energy subsidies in recent years and redirected these resources to the development of social protection and health systems.

In the period from 2012 to 2016, tobacco tax revenues allowed the Philippine Department of Health to triple its budget and the share of the population covered by health insurance. Cities in the United States, such as Philadelphia, are trying to use the carbonated tax to fund preschool education.

Some of the advantages of human capital development are summarized and are not limited to the generation in which the investment is made. For example, enriching a mother’s knowledge of a child’s perinatal care serves to improve the health of children from infancy.

Economists have shown that when individual investments in human capital are aggregated, the difference between investment in human capital and per capita income in different countries is 10 to 30 percent.

For example, in the mid-nineteenth century, Brazil encouraged the immigration of educated Europeans to Sao Paulo. As a result, 100 years later, the state has a higher level of education, more employment in industry than in agriculture, as well as a higher per capita income [5]. However, increasing funding is not enough to develop human capital. Some countries are forced to work to increase their efficiency while maintaining the quality of social services.

The World Bank has published the Human Capital Index of the world's countries for 2020. For the first time, the ranking of 174 countries with a population of 98% of the world's population includes data on health and education of the Republic of Uzbekistan. These data cover the period up to March 2020 and serve as a key indicator of children's health and education before the pandemic. Uzbekistan, which participated in this study for the first time, ranked 4th among the CIS countries after Belarus (70%), the Russian Federation (68%) and the Republic of Kazakhstan (63%) [62].

Reports published by the World Bank in September 2020 highlighted the importance of human capital in determining economic development. Although the focus on human capital was reflected in early research by G. Becker in the 1960s, it has been emphasized that today the focus on human capital is important with a focus on components such as the education and health of young children. This, in turn, is reflected in the fact that the initiation of reforms to develop human capital in children is more urgent than ever.

According to McCloy, there were often gaps between development concepts and their implementation. It is these gaps that can be overcome with the help of the World Bank's Human Capital Index. The new measures will convince countries to invest in human capital as soon as possible. It prepares everyone for the economy of the future - competition and prosperity in everything they can meet there. The inability to invest in human capital is extremely costly for world development and for all of humanity.

RESULTS

According to the study, the effective use of human resources, human resource development and the introduction of international standards in this area, in particular, will increase the attractiveness of rapid investment in developing countries. Investing in human capital also increases confidence. Educated people trust others more; a society with a high level of trust usually achieves relatively high economic growth. Human capital does not emerge spontaneously; it must be developed by the state.

CONCLUSION

In conclusion, it should be noted that the creation of conditions for education and healthy development of children from an early age, as well as improving the system of vocational guidance of young people and their effective use for the country's development will determine the future development of the country.

In this regard, the role of intellectual youth, experienced and modern-minded high-potential personnel and specialists in the country is invaluable in achieving strategic goals, achieving new goals, ensuring competitiveness in the world market. This need is not easily met on its own,

underlying human capital and the idea of managing it. Therefore, the discovery of human potential and mobilization to achieve certain goals will contribute to the formation of a golden fund of modern personnel and the sustainable development of Uzbekistan.

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IMPORTANCE OF DISEASES IN THE CULTIVATION OF CUCUMBERS (CUCUMIS SATIVUS) IN GREENHOUSES

Azamatjon Muydinjonovich Ismatov*; **Elbek Abdurahmonogli Shermamatov****;
Sarvarjon Omonjonogli Toshmatov***

*PhD,

Namangan State University,
 UZBEKISTAN

**Master's Student,

Namangan State University,
 UZBEKISTAN

***Master's Student,

Namangan State University,
 UZBEKISTAN

ABSTRACT

Greenhouses play an important role in the efficient use of land. In particular, the cultivation of cucumbers in greenhouses will provide the population with cucumbers throughout the year. In the conditions of the old irrigated light gray soils of Namangan region, setting the cucumber variety "Orzu" in greenhouses at 6 m² / piece leads to the lowest (17%) incidence of verticillium wilt.

KEYWORDS: *Squash, Family, Cucumber, Soil, Option, Yield, Disease, Wither.*

INTRODUCTION

The family Cucurbitaceae includes many plants. Of these, watermelon-citrullusvilgaris, common pumpkin-cucurbitapepo. The potato-luffa belongs to cylyndrica and cucumber-cucmussativus, which are of great importance in agriculture. That is why it is grown on large areas of irrigated lands of the republic. The composition of plant products belonging to the squash family is very rich in antioxidants, vitamins, proteins, fatty acids, as well as elements such as Cu, Ca, K, and R.

THE MAIN FINDINGS AND RESULTS

Cucumbers, which are representatives of this family, occupy one of the most important places among them. Its importance is further enhanced by the presence of varieties, especially those

grown in open fields and indoor greenhouses. This will allow the population to meet the demand for cucumbers in different seasons. That is why many scientists have done research on this.

According to G.V. Gulyaev, N.P. Dubinin [3], the thickness of seedlings is important in the cultivation of cucumbers; if cucumbers are grown in greenhouses. It is noted that an excess of the number of seedlings leads to an exacerbation of verticillium wilt.

G.V. Gulyaev [4], it is advisable to carry out separate care in greenhouses for each plant. This will reduce their susceptibility to disease and pests. Otherwise, they say, the disease of brown spot will intensify and lead to a decrease in yield by 10–12%, as well as a decrease in crop quality.

According to P.P. Vavilov [1], the importance of mineral fertilizers for cucumbers is very high. If there is a lack of mineral fertilizers, a number of diseases occur in the plant. In particular, phytophthora, brown spot, fusarium wilt cause wilting diseases. As a result, productivity falls sharply.

P.V. Lukyanenko [7] found that the increase in productivity in growing in greenhouses than in the open field of cucumbers also increases its demand for external factors several times. That is why it is necessary to create a favorable environment for the plant in greenhouses. In this case, first of all, the number of seedlings should be considered, and secondly, their demand for nutrients for the planned harvest should be studied. It is advisable to determine the number of irrigations and water regime, including the demand for water. As a result, the authors noted that the plant is less susceptible to diseases and pests, which in turn increases its productivity.

According to statisticians (Gritsay, Bepalova, [2]), one of the main factors in obtaining an abundant harvest from agricultural crops and preserving the crop grown is protection from pests, diseases and weeds. Every year, due to a single pest, humanity: 203.7 million tons of grain, 228.4 million tons of sugar beet, 23.8 million tons of potatoes, 23.4 million tons of vegetables, 11.3 million tons of fruits.

Based on the above data, we also aimed to study the number of cucumber seedlings in the conditions of Namangan region. To do this, we planted a variety of cucumber “Orzu”, created for growing in greenhouses. Our experiment was carried out in the conditions of light gray soils of Namangan region, which have long been irrigated. In the experiment, there were 3 options, arranged in one tier, the total area of one delyanka was 12 m², and the identification area was 8 m². Experimental and phenological observations were carried out according to the methodology of B.A. Dospekhov [5] “Methodology of field opyta”, soil and plant analysis was carried out according to the methodology of PUSSETITI (old SayuzNIXI) “Methods of agrochemical analysis of soil and plants” [].

We determined the number of seedlings differently according to the options in the experiment. Other agro-technical measures were taken in the same way in all variants. During the experiment, we observed physiological changes in plants. We present this information in Table 1 below.

TABLE 1 DEPENDING ON THE NUMBER OF SEEDLINGS, THE CUCUMBER IS INFECTED WITH VERTICILLIUM WILT

Control, as in the farm,	Number of seedlings				
	Total number of seedlings, m ² / pcs	Number of healthy seedlings, m ² / pcs	Number of diseased seedlings		
			m ² / dona	perce nt	Morbidity rate per plant, percent
1	Назорат, хўжаликдагидек, 8	6	2	25	10
2	6	5	1	17	6
3	10	7	3	30	17

As a control variant of the experiment, the seedling thickness used in Namangan region (8 m² / piece) was obtained, while in the studied variant 2, less than the control, 6 m² / piece of plant were obtained. In the 3rd variant of the experiment under study, the number of seedlings exceeded the control (10 m² / piece). During the growing season of the cucumber plant, we studied the disease of the plant with verticillium wilt; no disease was observed in the plants in the early phases of the experiment. This is probably due to the fact that the plants did not grow well and did not interfere with each other. Later, as the plant stems began to grow rapidly, the blockage between the rows caused negative changes in the plants. From 50-55 days of the growing season, the plant began to show signs of disease. Our observations show that 2 of the 8 plants available in the control variant of the experiment were found to be diseased. In the 2nd variant studied, it was 1 plant, while in the 3rd variant it was 3 plants.

If we consider the incidence rate of these infected plants relative to the total plants, in the first option it was 25%, in the second 17% and in the third option it was 30%. We also studied the incidence of diseased plants. To do this, the total number of parts of the diseased plant was found, the number of infected relative to it was found, and the incidence rate was subtracted. In control 1 of the experiment, the incidence of diseased plants averaged 10%. In the second option, it showed a level of 7% and in the third, a level of 17%. Although the control variant accounts for 25% of infected plants, we can see a low incidence rate (10%) in these plants. However, we can see that in Option 3, where the number of seedlings was much higher than the control, the incidence rate was 17% higher.

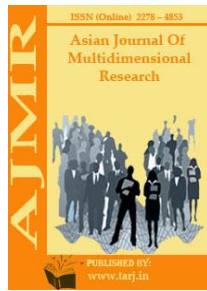
We know that the level of soil fertility is also important in obtaining high yields from agricultural crops. If the soil is poorly supplied with nutrients, it is advisable to increase the number of seedlings in them to increase crop yields. The number of seedlings of agricultural crops is determined as low in areas where the soil is adequately supplied with nutrients. At the same time, crop yields are increased due to the availability of soil. In the light gray soils of Namangan region, where we conducted the experiment, the nutrients are sufficient for agricultural crops. In particular, the fact that it is sufficient for cucumbers, the increase in the number of seedlings allows them to grow at a high rate and shade each other. This has led to many diseases of plants.

CONCLUSION

In conclusion, in the conditions of the old irrigated light gray soils of Namangan region, setting the cucumber variety "Orzu" in greenhouses at 6 m² / piece leads to the lowest (17%) incidence of verticillium wilt.

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AMIRIY AND FAZLIY

Zeboxon Bakirovna Kobilova*

*Doctor of Philological Sciences (DSc),
Kokand State Pedagogical Institute,
UZBEKISTAN

ABSTRACT

The article deals with the creative influence of Amiri, who is the leader of the Kokand literary environment, on FazliNamangani, who is considered to be "Malik ushshuara". It would be appropriate to take some of the references in the ghazals and muhammas of the poets as the most accurate information about their lives. In particular, the fact that Turkish and Persian poetry was written at the level of such great figures as Navoi and Bedil - the artistic genius of their famous ghazals - testifies to the fact that he was a brilliant artist with the ability to create masterfully in both languages.

KEYWORDS: *Literary Environment, Creative Influence, Tatabbu, Tavr, Ghazal, Skill, Fine Arts, Radif, Couplet*

INTRODUCTION

The founder and leader of the Kokand literary environment, AmiriMavloni Lutfi, Abdurahmon Jami, Alisher Navoi, Muhammad Fuzuli, Saib Tabrizi, MirzoBedil, studied at the school of outstanding representatives of the Eastern classical art of speech. and has a unique talent. In particular, the fact that Turkish and Persian poetry was written at the level of such great figures as Navoi and Bedil - the artistic genius of their famous ghazals - testifies to the fact that he was a brilliant artist with the ability to create masterfully in both languages.

It is known that Amiri, who mastered the secrets of poetry and eloquence under the influence of the great masters of classical poetry of the East, had a strong influence not only on the literary environment of Kokand, but also on the poets living in Khiva and the next generation of Uzbek writers. We can see traces of this influence in the works of such sensitive poets as Nodira, Uvaysi, Fazli, Ado, Makhmur, Gulkhani, Haziq, Ravnaq, Ogahi, Kamil, Tabibi, Bayani, Muqimi, Furkat, Zavqi, Avaz, Niyazi, Hamza.

Amiri's spiritual patronage, high level of poetry, populism and popularity, as well as his ability to inspire the representatives of the literary environment of his time to the national and aesthetic

spirit, enabled the people of the city to read the works of their patrons and teachers. caused to bind. Under the influence of the Amiri, he composed poems. In particular, among the poets of the period, the use of Amiri's ghazals rose to the level of a creative competition. In these treatises, the poets continued the ideas of the Amiri's ghazal, striving to open new horizons, to enrich the series of symbolic metaphors with new artistic discoveries. It is known that Fazli Namangani composed his tazkira "Majmuaishoiron" on the basis of such traditions of poets of Kokand literary environment. It is known that "Majmuaishoiron" consists of two parts; the first part contains poems of contemporary poets dedicated to Umarchan. In the second part, the tatabbu and muhammas of his contemporaries are given to Amiri's ghazals.

The poems of the king-poet were read hand-in-hand and inspired the creators of the time. Amiri himself proudly admits this in his "mavzun" ghazal poem:

Bu g'azalbo 'ldi Xo 'jandahlig 'amashhur, Amiri,

Qilditaslimango Ravnaqu Mirzomavzun [1,278].

It was a ghazal famous to the people of Khojand, Amiri, It was handed over by Ravnaqu Mirza

"Usually, when it comes to literary influence, two things are taken seriously. One of these is the worldview, i.e. the ideological relationship. The second and most important is artistic skill "[2,17]. Fazli also adheres to these two criteria in his work.

There are many ties that bind Amiri and Fazli. This poet, who was the king's motto of the Kokand khan's palace, first of all, applied the Amiri's ghazals the most. Second, in his taboos, especially in their praises, he described his patron as "many and good". Thirdly, in the literary environment of Kokand he wrote a treatise "Majmuaishoiron", which provides information about the people of the pen, in which he quotes the poets of the time, mainly in the poems of Amiri. Fifth, in the introductory parts of the tazkirah, he cites each of the ghazals in which the Amiri's tatabbu is written, in which he describes the king-poet. Sixth, Umarchan wrote the epic "Umarnoma" about his life and work, military campaigns and work for the development of the country.

It begins with the Amiri's verses of Fazli, "O Niholisarviqad, v-eygulbunibogivafo", "Dodetarmankorsam ani itlarigavgosidin", "Kordinozaninlardintugmaigiribonlar", "sanga", "crown on the head", "talx", "gapur", "ustundadur", "hanuz", "etmaz", "seventy", "evaz", "nahaz", "tarog", "dog", "Play", "see", "do", "let him die", "this", "ustina", "ichra", "one", "dondurdi" radifi ghazals.

Fazli's taboos are often distinguished by the description of the Amiri, in particular, his praise ends with the praise of the king-poet. For example, his recitation of the ghazal, which begins with the verse. The tatabbu, which consists of 7 bytes like a ghazal and is written in the target weight of the ramalimusam, almost continues with Umarchan's description and ends with the following descriptions:

To abadbo 'lg 'ayjahonmulkida, Fazliy, jovidon,

Xusraviso hibqironsulton Umar kishvarkusho [3, 71].

Forever in the possession of the world, Fazli, eternity,

Khusrawi Sahibkiran Sultan Umar Kishvarkusho

But Fazli's taboos are not only imitations and descriptions, but also expressions of unique metaphors, deep and multifaceted thoughts. For example, in the pre-praise verse of the quoted ghazal, we come to the following vital conclusions on the level of wisdom:

Sinsako 'ngilshishasitadbirilabo 'lmasbutun,

Ustixonermaski, onirostqilmasm'o 'miyo [3,71].
The glass of the soul breaks, not with the event become a whole,

Ustikhon is a mummy who does not tell the truth

"The heart is like a thin glass. If it is broken, it cannot be restored by any means. Because it's not a bone, it's an idol with a mummy when it's broken. "

These are, in fact, common life proverbs among the people, which have come down through centuries of experience, and Fazli has introduced them to the ghazal in a beautiful way.

Usually, in the pre-praise verses of the poems, the poets express their deep and multifaceted life observations, conclusions based on life experiences, philosophical thoughts and ideas as words of wisdom.

He also uses the art of talmeh in his tatabbus to the radifi ghazal "Crown on the head" and creates an artistically harmonious verse based on a beautiful allegory:

Xasta ko 'nglim mahmili shavqingdin o 'ldi sarfaro,
Yo 'q ajab Yusufni dalvin qilsa chah bosh uzra toj [3,87].

My sick soul died of thirst, sarfaro,

No wonder the crown on the head of the chah

Here the poet compares the fact that the lover's sick-hearted horse was raised by the kajava of his companion with the desire to crown a bucket of the old well Yusuf on his head. In the verse, there is a reference to Joseph's hanging in a bucket when his half-brothers left him in an old well, when Egyptian merchants put buckets in it to get water.

There are two gazelles in the Amiri's office with the line "above". In Fazli's introduction to these poems, we also encounter unique metaphors. For example, in the following verse, he likens the mask of a lover's sweaty face to a flower petal on the surface of a rose:

Terlagan ruxsoring uzra lolagun burqa 'mudur,
Yo tarovat birla gul bargi gulob ustindadur [4, 491].

It's a tulip on your sweaty face,

The flower petals are on the rose petals

This verse echoes the idea of Amiri al-Ghazali's praise:

La 'lida may sog 'aringulgunko 'rub, so 'rdim, Amiri:
"Vah, nazebololabargila 'li nob ustindadur?" [1,100]

When I saw the pink rose in Lali, I asked, Amiri:

"Wow, what a beautiful tulip leaf is on a la'li nob?"

"When I see a glass full of red wine on my beloved's lips, how beautiful is this beautiful tulip leaf on the clear wine." Fazli's introduction to the same ghazal shows a beautiful example of the art of diagnosis:

*Ikkizolimqoshlaring bosh indirubqatlimuchun,
Ro'baruo 'lturdilarbir-birgakangoshustina*[3,258].

Two cruel eyebrows to bow my head,

They sat face to face on the board

Using the eyebrows side-by-side, the poet skillfully uses them in the pursuit of his artistic goal, so that they sit face to face and consult with each other on how to execute the lover.

Amiri's ghazal, which begins with the line "Lab uyurtakallunga, zulfni parishonqil" was extremely popular. Fazli is one of them. He applied the same amount to a 7-byte gazelle. It retained both the weight and the rhyming order, as well as the rhyme. But artistically, Amiri could not rise to the level of a ghazal. Nevertheless, it was popular among the people because of its relatively simple style and simple language, its intelligibility and folklore. Therefore, it was Fazli's ghazal, not Hamza Amiri's.

It is known that "the issue of the author's biography and biographical approach to it has a special place in the history of Uzbek classical literature" [6, 6]. It would be appropriate to take some of the references in the ghazals and muhammas of the poets as the most accurate information about their lives. These thoughts in the following ghazal praise are connected with the poet's biography: his relationship with the king was broken, he left for Namangan, where he was born and grew up, and lived in the hope of returning to the palace:

*Fazliyo, Umar sultondargahigayo 'ltobsang,
Ko'zlaringg'atuprog'insurmai Sulaymonqil* [4, 487].

Fazliyya, if you go to Sultan Umar,

Put Solomon in your eyes

On the nights of poetry, Fazli, who was boasting of his poetic potential, saw a ghazal of the king and said that he would go to the ground in shame:

*Garchishe'rbazmidalofurarerdiFazliy,
Ko'rdibirg'azalshohdinqoldiinfiolichra* [3,271].

Although Fazli used to brag at the poetry festival,

He saw a gazelle in the infiol

In his commentary, he praised the talent of his parents and the artistic level of his poems, writing poems in the way of truth and metaphor, the king-poet, who felt the word delicately, amazed the world with his beautiful poems, describing that every couplet was at the level of shahbayt:

*Ba uslubshe'rekardasoz,
Gahiazhaqiqat, gahiazmajoz.
Ba guftorishirinshahixushkalom,*

Jahonrokaashidabasilkinizom.

Ki xohig 'azalgufta, xohbayt,

Buvad har yak abyotio 'shohbayt [3, 60].

Amiri's ghazal, which was based on the art of "comb" radiftajnis and was adorned with rhymes and metaphors, was also beautifully adapted by contemporary poets on the basis of creative competition. Fazli's taboo is distinguished by its richness of figurative metaphors, while at the same time continuing the figurative metaphors in the ghazal and opening up a new side of them. In particular, in the following verse, Amiri says that he wanted to shave the cypress tree, and that he fell in love with shaving his lover's hair.

Chu sarvsunbulinshonaqilmoqettihavas,

Sanavbarayladishamshoddinso 'rog' tarog' [1,151]

Seven desires to comb Chu cypress sunbulin,

Sanavbar started asking Shamshad for a comb

The Fazli's couplet, on the other hand, seems to be the basis of this byte: the garden is caring for a sesame tree on one side, as if to make a comb for shaving the beauty's hair. We have explored this problem in the following articles. It is known that shamshad is a beautiful tree, so it is attributed to the lover's theme. At the same time, because its wood is hard, it is used to make things like combs:

Chamannigo 'shasidatarbiyatqilurshamshod,

Sochiningsunbulig 'aaylamakka bog' tarog' [5,198].

Shamshad raises Chaman in the corner,

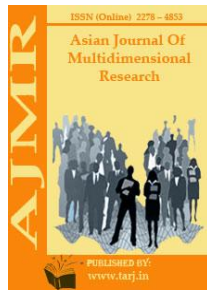
Hair comb to turn hair into a sunflower

In conclusion, it can be said that Fazli's poems to the Amiri show that the author was a high-spirited poet.

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SPECIFIC FEATURES OF THE MEDIATION AGREEMENT IN THE SYSTEM OF MARKET RELATIONS

Djambakieva Feruza Bakhtaxunovna*

*Lecturer,
Department “State Legal Subjects”,
Specialized branch of Tashkent State Law University,
UZBEKISTAN
Email id: feruzauzmu86@mail.ru

ABSTRACT

In this article, the author describes the commission agreement as a broad user agreement in business relations in the legal system of developed countries, widely used in international and domestic trade relations, as well as the features of the commission agreement in the modern process of improving civil legislation in scientific and practical terms.

KEYWORDS: *Intermediary, Commission Agreement, Universal Contract, Commodity Exchange, Commission Valuation, Insurance, Publishing, Wholesale, Collateral, Transportation Intermediary, Debt Intermediary.*

INTRODUCTION

Contracts occupy a unique position among the legal instruments that govern social relations. Humans have utilized agreements as a highly versatile legal device for governing various social ties for thousands of years.

Contracts are one of the foundations for the creation of civil rights and obligations between the parties, according to Article 8 of the Civil Code of the Republic of Uzbekistan. Contracts, without a doubt, get a lot of attention these days. Because, unlike other legal facts, the parties' will is completely reflected in contracts.

Share construction, cluster production, e-commerce, crypto-currency turnover, land privatization, and other activities are not regulated under the “Concept for Improving the Civil Legislation of the Republic of Uzbekistan”¹ adopted by Decree of the President of the Republic of Uzbekistan No. F-5464 of April 5, 2019. In this regard, the scientific, theoretical, and practical examination of the characteristics of the mediation contract in today's civil law is one of the most serious concerns in the system of mediation interactions.

Today, the brokerage agreement is characterized as a user agreement in business relations in the legal system of all developed countries and is widely used in international and domestic trade relations. According to the definition given in the legal literature, it can be said that the mediation agreement has the following legal features:

First, the mediation agreement involves two parties, each of whom has rights and obligations. This characteristic shows that this agreement is bilateral.

Second, the mediation agreement is concluded for a certain fee.

Third, the mediation agreement is consensual in nature.²

It is well known that the doctrine of civil law is governed by the concept of a consensual mediation agreement. There are also some that hold contrary viewpoints. B. K. Komarov, in particular, attempted to prove the notion that the mediation agreement is genuine. The scientist claims that there is no need to mediate until the principal gives the item to the intermediary. The mere fact that the mediator and the principle have reached an agreement does not imply that the principal has a legal obligation to deliver the item to the mediator. This is because if the principal has no interest in the outcome of the transaction, he may cancel the assignment and the mediator will not have the right to require him to hand over the item in this case. If the principal does not hand over the goods to the intermediary within the period specified in the contract, then the term is not expired and, accordingly, the responsibility of the principal does not exist.³

Of course, it's difficult to disagree with the author's point of view in this case. According to the author, the agreement's consensual nature may be recognized first and foremost in the potential of enforcing it. We can observe how the author approached the client's interests in this situation. The core of the mediation relationship is primarily dictated by the customer's - the client's - interests in completing the transaction. Loss of interest in the transaction shall not obligate the principal to transfer the thing to the intermediary. In accordance with the legislation, the principal may also terminate the mediation agreement at any moment.

The essence of a mediation relationship is that it does not require any action to be taken to deliver the goods or enter into a mediation agreement. Delivery of the goods by the principal on the basis of a mediation agreement is carried out on the basis of a previously concluded contract.⁴

What types of agreements may be allocated to the mediator is a point of contention in the civil law doctrine. It's worth noting that all of these observations are made within the context of the mediation agreement as a whole. The mediation agreement's major point was that the mediator entered into an agreement on his own dime, but on behalf of the principle, in accordance with the principal's assignment.

It is worth noting that A.V. Egorov, who conducted research on the mediation agreement, has made some progress in this regard. The author makes a number of valuable comments on the subject of the mediation agreement, pointing out that there are certain approaches. In particular, in his view, the first approach is seen as a universal legal instrument in which a person (client) achieves a certain result as a result of the activities of another person (mediator) on the basis of a mediation agreement. As a result, many transactions are made through the involvement of an intermediary. As an alternative to this approach, the subject of the mediation agreement should cover a limited range of transactions, taking into account the history of the mediation obligation and its close relationship with trade. These include pre-sale or other transactions of a

commercial, transactional nature, which can be executed by the broker himself without the assistance of the principal. In this case, the second approach is preferred.

The preceding viewpoint should not be regarded as exclusive. This is because emphasizing the nature of this agreement as a universal agreement in the study of the mediation agreement's subject might aid in covering the legal nature of the agreement and its extent.

There were other views in civil law doctrine that the mediation contract should only be used in the purchase and sale of property. According to V. A. Krasnokutsky, mediation is a task that involves selling or buying anything.⁵ A. Shakhnazarov agrees with this opinion. In his view, the element of intermediary activity is the purchase or sale in accordance with the principal's assignment. As proof of his opinion, the author emphasizes the existence of legislation that expands the scope of mediation.⁶

E.A Sukhanov observes that the purpose of the mediation agreement is usually merely the transaction on the sale of the principal's property, focusing on the scope of the agreement.

The foregoing points are difficult to concur with. Because we can see, the authors' viewpoints are primarily established on the basis of legislation that existed during the former Soviet era. Other scholars from the same time period, however, observed the presence of intermediaries in buy and sale contracts, as well as other key categories of intermediation, such as transportation, rental housing, debt intermediation, and other essential types of intermediation.⁷

The Regulation on Cooperation was approved by the Resolution of the ICC of the Republic of Turkestan and the Central Executive Committee of August 15, 1922 "On Credit Cooperation". According to it, citizens of TASSR can establish credit and loan-fund cooperative societies to provide their members with soft loans for their economic needs (equipment, raw materials and tools produced by the members of the company)⁸, the purpose of these societies was to serve mainly the poor and middle class cotton pickers by providing loans on a cooperative basis. Such cooperatives have the right to carry out savings, loans, mortgages, loans, trade and brokerage operations.⁹

To some extent, the preceding authors' viewpoints limit the scope of the mediation agreement. The extent of transactions that can be entrusted to an intermediary is now unrestricted by the Republic of Uzbekistan's Civil Code.

In civil law, there are numerous perspectives on the scope of the mediation agreement. Based on the nature of the mediation relationship, these opinions are conveyed in the definition of particular transaction conditions, the structure of which may be entrusted to the mediator.

The objective and substance of the mediation agreement, according to A.V Egorov, is to independently acquire the mediator's rights and obligations and to transmit the property outcome to the principle. As a result, the conclusion of transactions that, if required, can be transferred to another person and implemented by the mediator without the participation of the principal is the subject of the mediation requirement.⁸

From the above, it can be concluded that there are two different views on the definition of the subject of the mediation agreement in civil law:

First, the subject of the mediation agreement involves the conclusion of an agreement that gives rise to a property result that can be transferred to the principal;

Second, the subject of the mediation agreement involves the conclusion of an agreement that can be executed by the mediator without the participation of the principal.

The preceding criteria are less in line with the mediation agreement's legal nature. The reason for this is that the scope of transactions that the legislature can delegate to the mediator is not limited. The current legislation has established a distinct framework for contract matters. Article 838 of the Civil Code states that objects transferred from the principle to the intermediary or purchased at the intermediary's expense become the principal's property.

The performance of the obligation assumed by the mediator (e.g., the conclusion of the transaction, the performance of the rights and obligations under the transaction) is, as a general rule, not related to the outcome of the transaction. Execution of the transaction by a third party is not covered by the mediation agreement. Consequently, the outcome of a transaction as a specific property is outside the scope of the brokerage agreement until it is delivered by a third party.

The interest of the principal may be satisfied without the obligatory transfer of the property result of the transaction to him. Naturally, it is not expedient to limit the subject of the mediation agreement on the basis of a criterion that includes the conclusion of a transaction that gives rise to a property result, the subject of which may be transferred to the principal.

The interests of the principal will be secured even without the acceptance of the property result. For example, insurance contracting services. In this case, the intermediary appears on his behalf as an insurer of the principal's property. A property insurance agreement does not necessarily imply a property result. If the insured event does not occur, of course, the principal will not receive payment for the insured event. The inclusion of the insurance contract in the subject of the mediation contract has existed throughout the history of the development of this institution. Therefore, Article 840 of the Civil Code provides for the conclusion of an insurance contract at the expense of the principal.

Another transaction under a mediation agreement is the transfer of the principal's property by the intermediary for safekeeping in his own name. This agreement is also traditionally included in the subject of the agreement at all stages of the development of the mediation agreement. Even in this case, we do not see a property result that can be transferred by the principal. The interest of the principal is expressed in the safekeeping of the property.

If the subject of the brokerage contract is based on an approach that involves the conclusion of a transaction that gives rise to a property result that can be transferred to the principal, then all service contracts must be excluded from the subject of the contract. This is because these contracts do not contain the property result that is handed over to the principal.

It is also worthwhile to comment on the criterion that the subject of the mediation agreement includes a transaction that can be executed by the mediator without the participation of the principal. This criterion does not correspond to the legal nature of the mediation agreement. In particular, an intermediary may not execute an agreement on the sale of a particular item entered into under the performance of an intermediation agreement until the item has been handed over to the intermediary or directly to a third party.

If we take into account that in some cases the agreement with third parties on the performance of the mediation contract can not be executed by the principal without the participation of the

principal, it is illogical and inappropriate to limit the subject of the mediation contract to a contract that can be executed by the mediator.

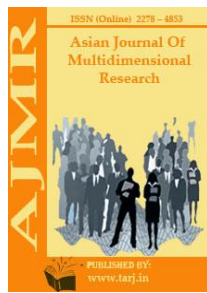
Annex 2 to the Resolution of the Upper House of the Republic of Uzbekistan "On the list of activities for which licenses are required", approved on May 12, 2001, specifies the types of activities to be licensed. In accordance with Article 11 of the Law of the Republic of Uzbekistan "On Licensing of Certain Types of Activities" of May 25, 2000, the type of activity licensed for implementation can be carried out only by a licensed legal entity or individual. It is prohibited to transfer licenses or related rights to other persons. Licensing activities include appraisal, insurance, publishing, wholesale, pawnshop and other activities. Hence, the ability of an intermediary to enter into certain types of transactions is limited.

An intermediary contract is a universal contract model. From the above, it can be seen that the conclusion of a wide range of agreements on the subject of the mediation agreement includes unilateral, bilateral, fee-based and free transactions.

In conclusion, the criterion that the subject of the mediation agreement includes the conclusion of a transaction that gives rise to a property result that can be transferred to the principal does not correspond to the nature of the obligation and the practice of enforcing the right to have a mediation agreement in civil proceedings. Therefore, it is advisable to apply the rule that "the subject of the mediation agreement includes all types of transactions, except for transactions that by law can be concluded only by the principal."

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STRENGTH AND RESISTANCE TRAINING AND IMPLEMENTATION IMPACT ON ENDURANCE LEVELS

Dr. Anjana Lohan*

*Associate Professor,
Head, Deptt. of Physical Education,
S.D. MahilaMahavidyalaya, Narwana, Jind, Haryana

ABSTRACT

Resistance training, often known as strength training, is a kind of exercise aimed at increasing a person's overall strength and endurance. It's often used in conjunction with weightlifting. As well as callisthenics, isometric training and plyometrics may be included. Lifting weights properly can provide significant functional benefits and improvements in health and well-being. These benefits include improved joint function, decreased risk for injury and increased bone density, as well as increased bone strength and toughness. Strength training can also increase metabolism, improve fitness and improve cardiac function. There are many different workouts and equipment types used to target different muscle groups while training. However, some proponents have modified strength training to offer the advantages of aerobic exercise via circuit training, making it more of an anaerobic activity than it originally was.

KEYWORDS: *Strength Training, Endurance for Fitness, Resistance Training.*

INTRODUCTION

Strength training usually results in the accumulation of lactate in the muscles, which limits the amount of work that can be done. Consistent endurance training alters the skeletal muscle such that lactate levels don't rise while you're lifting weights. Strength training is essential or included in the training plans of many sports and physical activities.

With strength training, you'll become stronger, look and feel better, have more energy, and be healthier overall.



Figure 1 : Resistance Training

Improved Sense of Physical Allure

Strength training is popular among those who want to enhance their physical beauty. According to the results of the study, the most physically appealing masculine feature is a wide chest and a small waist, which may be achieved via strength training. While most women do not have the testosterone to build large muscles, they may nevertheless create a solid, "toned" (see below) physique and improve their strength in the same way that men do by following a weight-lifting programme (but usually from a significantly lower starting point). The way a person responds to weight training stimuli is heavily influenced by genetics. Though polymorphic expression occurs, such as in myosin-heavy chains, training cannot improve a muscle beyond its inherent genetically established characteristics.

People can detect men's strength from pictures of their bodies and faces, according to research, and a man's physical beauty is frequently connected to signals of strength that suggest a man's physical formidability. Strength training has been shown in research to increase self-esteem and body cathexis compared to those who don't train or work out. Furthermore, individuals who do strength training have a better self-perception of their bodies than those who do other forms of exercise like walking and jogging on a regular basis. Women now are more likely than those polled in 1984 to be unhappy with their physical appearance, and they often resort to exercises like strength training to remedy this problem.

After 45 minutes of intense activity, workouts increase metabolism for up to 14 hours and improved physical and mental well-being in general. In addition to its aesthetic advantages, strength training serves a variety of practical purposes. Having improved posture, greater joint support, and less chance of injury are all aided by having stronger muscles. Weight training may help older individuals stave off some of the muscle loss that comes with becoming older, and it can even help them recover some of their functional strength. This can help them live longer and be less fragile. Some kinds of physical impairment may be avoided if they succeed. Osteoporosis may be prevented through weight-bearing exercise, and bone strength can be improved in individuals who already have the disease. Studies on individuals in their 80s and 90s who started weight training show its advantages for the elderly.

Even while strength training has been shown to increase heart rate and blood pressure, many exercise physiologists believe that aerobic training is a superior cardiovascular stimulus since it increases maximum oxygen absorption. Resistance training is associated with an increase in

cardiac output as shown with central catheter monitoring, indicating that strength training has the potential to provide cardiovascular benefits. Although aerobic exercise is a beneficial treatment for heart failure patients according to a meta-analysis conducted in 2007, combined aerobic and strength training is unsuccessful.

It's possible that strength training is beneficial for your metabolism and heart health. Resistance training may help lower metabolic and cardiovascular disease risk, according to new research. Instead of being overweight and unfit, obese people with high levels of strength fitness have metabolic/cardiovascular risk profiles comparable to those of normal-weight, fit persons.

with the purpose of rehabilitating or addressing a disability

Exercise for weak muscles is crucial for individuals in rehabilitation or with an acquired handicap, such as those who have had strokes or orthopaedic surgery. A physiotherapist or occupational therapist may need to create a person's strength training programme if they have a health condition that necessitates this.

In a wide range of sports, improved performance is facilitated by stronger muscles. Many athletes train according to sport-specific regimens. Specific weight training programmes frequently call for the pace of muscle contractions to match the speed of the actual sport.

Dopamine, serotonin, and norepinephrine levels may rise as a result of strenuous exercise, which can help lift one's spirits and ward against melancholy (dopamine and serotonin were not found to be increased by resistance training). Many of the advantages of exercise are mediated by the skeletal muscle's function as an endocrine organ, according to new study. Myokines are substances released by contracting muscles that aid in the growth of new tissue, aid in tissue repair and have anti-inflammatory properties. These properties reduce the risk of developing various inflammatory diseases. Myokines are released in large quantities when muscles are contracting.

Principles and techniques for education and training

Strength training's fundamental concepts include varying the number of repetitions, sets, pace, exercises, and force to achieve desired improvements in strength, endurance, or size by overworking a particular muscle area. Multiple (4+) set with less repetitions with greater force is required to develop size and strength. The exact mix of reps, sets exercises, resistance and force will vary on the person doing the activity. Many alternative regimens may be used to accomplish different goals, but the American College of Sports Medicine's traditional formula is as follows:

For each major muscle group, do 8 to 12 repetitions of a resistance training exercise at 40% to 80% of a one-repetition maximum (RM), depending on the participant's training level.

- It is suggested that you relax for two to three minutes in between sets of exercises to enable your body to fully recover.
- For each muscle group, two to four sets are suggested.

Injury or failure to achieve training objectives may occur when proper form is not used during a training session. No threshold of overload is ever achieved when the targeted muscle area is not adequately pushed. As a result, no additional strength is gained by the muscle. There are times when cheating is advantageous, such as when weaker muscle areas become the weak link in the chain and the target muscles are never completely worked.

A wide range of words are used to describe different aspects of strength training:

A variety of motions that include rotating joints in particular patterns to place a variety of demands on muscles constitute exercise. In order to optimise safety and muscular strength development, each exercise has a particular form, or topography of movement.

Repetition - referred to as a rep, a single cycle of controlled weight raising and lowering is known as a rep.

Depending on the individual's goals, a set is made up of a certain number of repetitions done back-to-back without a pause in between. The Rep Maximum refers to the most repetitions you can get out of a given weight (RM). To illustrate, if someone can do ten repetitions at 75 pounds, then that weight is their 10RM. As a result, 1RM refers to the heaviest weight that a person can lift in a single rep of an activity, meaning the heaviest weight that they can lift without stopping.

It's important to know the pace of a movement since it affects how much weight you can move and how it affects your muscles.

The best programme for building endurance is one that gradually increases volume while decreasing intensity. Anaerobic endurance is developed with sets of 13 to 20 repetitions, with some gains in muscle growth and little effect on strength.

Although multiple-set training has been proven to provide little advantages over single-set training for novices in terms of either strength development or muscle mass increase, multiple-set methods are needed for experienced athletes in order to make optimum progress. Yet another research indicates that three sets are better than one for leg muscles.

First-time weight-trainers are learning how to train for muscular contractions near to the muscle's maximal capacity by developing their brain's ability to create a high rate of neuronal action potentials.

For each exercise, the weights used should be selected such that the required number of repetitions is barely reached. In order to train muscles effectively, one must utilise a concept known as progressive overload, in which the muscles are overworked by lifting as much weight as they can bear. They increase in size and strength as a result of the reaction. As the practitioner's strength and endurance improves, this exercise is performed with increasingly larger weights.

A common misconception is that only the most experienced lifters should attempt exercises at their absolute maximum strength (sometimes referred to as one rep max lifts). In addition, most people want to increase their overall strength, stamina, and size of their muscles. Sets with just one repetition aren't the best choice for these objectives. In order to exhaust the muscle and all of its fibres, practitioners lift lower (sub-maximal) weights for a greater number of repetitions.

In most cases, a workout is performed until complete muscle failure is achieved. This isn't the moment when someone believes they can't do any more repetitions, it's the first time a repeat fails because of insufficient physical power. When it comes to training to failure, there are two schools of thought: those who think that doing so on all sets would lead to overtraining and others who believe that doing so on the last set will be sufficient. Some trainers advise completing a set of repetitions just as you're about to exceed your personal limit for the time allotted for the workout. Getting "psyched up" prior to a workout can increase the maximum

weight lifted because adrenaline and other hormones can promote additional intensity by stimulating the body to lift more weight (along with the neuro-muscular stimulations that occur when in "fight-or-flight" mode, as the body activates more muscle fibres).

To properly exhaust each particular muscle group after the exact amount of sets and repetitions determined to be most beneficial for the person, weight training may be a highly effective type of strength training. Without weights, other forms of strength training are limited in their ability to be customised.

Instead of exercising all of a particular body part in one training cycle, split training targets just three muscle groups or body regions each day. It is popular among more experienced trainers owing to the logistical challenges of exercising all major muscle groups at once. Most people believe it's impossible to exercise every muscle in the body separately through the entire range of motion in just one session. Split training is working out just a portion of the muscles at a time, then resting for several days to enable the muscles to recover completely. Muscles are exercised twice a week, with a 72-hour recovery period in between. While exercising other muscular groups, it is common for a practitioner to recover specific muscle groups such as the trapezius, side shoulders, and upper shoulders. The next day, the practitioner may exercise the arms to exhaustion before recovering the back, front shoulders, and chest. All of the aforementioned muscle groups will have the time they need to heal this manner.

The body-part split, also known as the "bodybuilder split" or the "bro split," has become popular in professional bodybuilding and is discussed in a number of sources dedicated to physical training, such as Bodybuilding.com, T-Nation, and Muscle & Strength. It is possible that the body-part split is the most common training split in recent decades. Body parts are separated into what are known as "main muscle groups," such as chest and back. Each component is then exercised to exhaustion once a week on a certain day, such as the shoulders and arms (biceps and tris). It is possible to train the biceps and back at the same time since both are engaged in pulling motions, and the triceps and shoulders may be trained at the same time because they are both involved in pushing. Work on the abdomen may be done in many sessions or all in one day.

Volume, Frequency, and Intensity:

Intensity, volume, and frequency are all key components of a successful strength-training programme. Work needed to accomplish an activity's intensity varies inversely with the weight being lifted (in pounds). A workout's volume is determined by the number of exercises, sets, and repetitions performed. Frequency refers to the number of workouts done per week. Getting your muscles back to normal takes three days on average. When it comes to muscle growth, twice or three times per week is better than once per week, but training volume has a larger impact on muscular strength than training frequency does.

Variables like these are crucial since they all work against each other, as muscles can only go so far in terms of strength and endurance before they need to be repaired due to microtrauma. It's impossible to increase one without decreasing the other two, thus adding weight implies reducing the number of repetitions each set, which means longer recovery time and fewer sessions per week. Example: Excessive effort to exceed the limits will lead to overtraining, which may lead to injury and other health problems including persistent pain and fatigue, disease or even acute damage like avulsion fractures. To prevent overtraining, utilise the high-medium-low formula, where the intensity, volume, or frequency is high, the other two are medium, and the last one is low. This training method is shown in the chart below:

TABLE 1 : KEY PARAMETERS

Type	High	Med	Low
Intensity (% of <u>1RM</u>)	80–100%	40–70%	0–40%
Volume (per muscle)	3+ exercises	2 exercises	1 exercises
Sets	4+ sets	2–3 sets	1 set
Reps	20+ reps	8–15 reps	1–6 reps
Session frequency	4+ p/w	2–3 p/w	1 p/w

Bodybuilding, on the other hand, follows the same concepts as strength training but focuses on bulking up the muscles. Professional bodybuilders develop more muscle mass than strength coaches with different objectives and regimens.

Toning of the Muscles

There are insufficient references in this article to support your claims. Adding citations to trustworthy sources will allow you to enhance the article. It is possible to delete questionable content by citing the source. Light, high-repetition workouts are used by some weightlifters in an effort to "tone" their muscles without bulking them up. 'Tone' comes from the Latin word 'tonus' (meaning "tension"). When used in anatomy and physiology, as well as medicine, the word "muscle tone" refers to the muscles' resistance to passive stretching when in a resting state, or the muscles' continuous and passive partial contraction during resting state. Tonus in the muscle is influenced by neurological input. A person's musculoskeletal tone may be assessed for normality or abnormality in medicine by looking at variations in muscle tone. This is where the word "tone" in strength training comes from. If you're looking to develop muscle, you want to have "muscle firmness," which refers to a mix of acceptable muscle size and moderate body fat, which may be achieved via food and exercise.

The increase in actin and myosin cross filaments in the sarcomere causes an increase in muscle tone or firmness. An increase in firmness or tone in the muscle's passive partial contraction happens when the same amount of neurological input occurs. Lifting weights between six and twelve times causes sarcoplasm hypertrophy in both fast and slow muscle fibres, resulting in increased muscle mass overall. Myofibril hypertrophy, on the other hand, results in strength increases. Both, on the other hand, are possible throughout this set of reps. Despite popular belief, more repetitions do not provide the desired results in terms of increased muscle stiffness or tone. By increasing the number of cross-actin and cross-myosin filaments in the muscle, low-volume strength exercise increases muscular firmness or tone. The lack of hypertrophy will be hampered by the limited volume of this exercise. Muscle hypertrophy is unaffected by reduced-calorie diets of any fibre type. However, by reducing total body fat, they may increase the visibility of muscle striations by decreasing the thickness of subcutaneous fat (fat between muscle and skin).

A Reduction In Body Weight

Sit-ups and stomach crunches require less effort than full-body aerobic workouts, thus they burn less calories when done as an example of an activity, rather as running. Hypertrophy helps to

keep muscle mass up while also raising the resting metabolic rate, which burns more calories over time than aerobic exercise alone. Maintaining an elevated metabolic rate helps prevent it from dropping after dieting or an aerobic programme has been completed due to metabolic adaptation, which would otherwise occur. Being in a calorie deficit is the most common way to lose weight. You may create a calorie deficit by either eating fewer calories than you need to maintain your current weight or raising your energy expenditure to a point where it exceeds your calorie consumption. At rest, lean muscles need energy to be healthy, thus increasing your basal metabolic rate can help you lose weight.

Historical Perspectives

This is a Two Hands Anyhow by Arthur Saxon using a kettlebell and plate-loaded barbell from the early 1900s. The history of strength training was quite similar to that of weight training up to the turn of the 20th century. Modern technology, materials, and understanding have resulted in a substantial increase in the number of techniques available for strength training.

At some point in the second part of the nineteenth century, the dumbbell was joined by the barbell. Sand or lead shot could be used to fill early barbells' hollow globes, but the plate-loading barbell that is used today supplanted them around the turn of the century. Charles Atlas popularised isometric strength training in the late 1930s and early 1940s. In the early 1960s, exercise machines began to appear in the still-rare strength training gyms of the day. After the publication of the bodybuilding film *Pumping Iron* and the subsequent fame of Arnold Schwarzenegger, strength training became more popular in the 1980s.

Weight training was discouraged for youngsters by orthopaedic experts who feared it might damage their growing bones' growth plates. Children who exercised with weights had a very low incidence of growth plate fractures because of poor supervision or overtraining. There have been no reports of growth plate injuries in adolescent training programmes that adhered to established standards. For the National Strength and Conditioning Association, appropriate design and supervision are key to the safety of strength training programmes for children.

If a kid drops a weight on themselves or does an exercise improperly, they are more likely to be injured than adults. Additionally, young children may not comprehend or disregard safety measures surrounding weight training equipment, putting them at higher risk of injury. As a consequence, it is widely accepted that adult supervision is essential when it comes to adolescent strength training.

In Australia, strength training ranks as the fourth most popular kind of exercise. Strength training in young athletes is controversial since it has become popular among people of all ages. Stunted development, health issues later in life, and poor eating habits are some of the arguments against strength training throughout adolescence. These misconceptions have been dispelled by research conducted by Australian specialists, recognised by the Australian Institute of Sport (AIS). Pre-adolescent strength training has no long-term health concerns as long as the methods are performed properly and under appropriate supervision. Preadolescents' strength training should emphasise skills and methods rather than bulk. Only the large muscular groups should be worked by children, and only with free weights and body weight exercises that are relatively low in load. These techniques have many advantages, including improved strength, reduced risk of injury, and an understanding of sound training concepts.

Muscle mass loss is more common in the elderly than in the young. Older people who have greater strength tend to be healthier, happier, and have better physical function, as well as fewer falls. Some doctors may overlook the importance of a strength-training programme that results in muscular growth when an older person starts one. If possible, stick to a programme that fits your skills and objectives rather than an underdosed strength training regimen.

For an older adult, establishing a fitness programme requires conducting a baseline fitness exam to ascertain existing limitations. Any fitness programme for the elderly should be matched to the person's ability in terms of intensity, frequency, and length of exercise. As a result of the programme, participants should be stronger than they were at the start.

CONCLUSION

Light strength training activities performed three times per week are recommended for elderly people. Treadmills, which may be used for walking or a mild jog, are popular gym equipment that many people utilise. Body weight or elastic band exercises with a minimal effect on the muscles are generally the best home workouts. When exercising with weights, older people may do so with appropriate supervision and a lower weight load with an average number of repetitions (10–12 reps). In order to prevent injuries, it's critical for seniors to keep up a low-impact strength training regimen. When older individuals work out against a force or resistance, they become stronger as a result. In addition, progressive resistance training (PRT) enhances physical functionality in the elderly, such as walking, climbing stairs, and getting up from a chair more rapidly (e.g.: bathing, cooking). Transferring PRT exercises to clinical populations should be done with caution due to the lingering question of whether they will have any negative consequences.

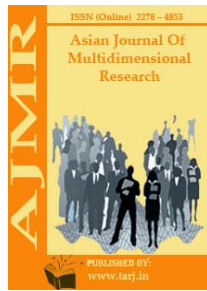
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A movement may be considered as having any number of strength phases but usually is considered as having two main phases: a stronger and a weaker. When the movement becomes stronger during the exercise, this is called an ascending strength curve i.e. bench press, squat, deadlift. And when it becomes weaker this is called a descending strength curve i.e. chin ups, upright row, standing lateral raise. Some exercises involve a different pattern of strong-weak-strong. This is called a bell shaped strength curve i.e. bicep curls where there can be a sticking point roughly midway.

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HOUSEHOLD FINANCE AS THE BASIS OF A MODERN FINANCIAL SYSTEM

Alieva S.S*

*PhD.Associate Professor,
Samarkand and Institute of Economics and Service,
Samarkand, UZBEKISTAN

ABSTRACT

The article discusses household finances as one of the links in the country's financial system. The views of various scientists on their essence and impact on the financial market are presented. The essence of household finances, their structure and the influence of cash flows on the formation of their income are considered. According to the authors, the difference between accrued and paid income can be significant, therefore, the actually paid income is of decisive importance for the household, which is why the population incomes are indexed, aimed at increasing the level of real incomes of the population, taking into account the socio-economic development of the country, improving the well-being of its population, formation of its stable financial well-being.

KEYWORDS: *Household, Household Finance, Cash Flows, Nominal Income, Real Income, Income Indexation.*

INTRODUCTION

The issues of well-being of the population of Uzbekistan are among the priority directions of the country's development. So, in 2020, Uzbekistan adopted a number of legislative and regulatory documents aimed at improving the living standards of the population and reducing poverty.

Their goal is to improve the level and quality of life of the population in the regions, in particular to reduce poverty, which is largely associated with the organization of new and stable jobs by creating fundamental conditions for increasing the competitiveness of all sectors and spheres of the economy and the development of entrepreneurship.

The government provides households (as well as firms) with public goods and services, the financing of which requires tax payments from the latter. The government imposes taxes on households (income tax, property tax, etc.), while making transfer payments to the latter (disability benefits, unemployment benefits, pensions, etc.). The state in relation to the

population performs the function of distribution. In a given household, the ratio of taxes and transfers can be different. First, a balance can be observed, the approximate equality of taxes paid and transfers received from the state (scholarships, pensions, benefits). Secondly, one of the types of payments may predominate or be completely absent. For example, in the household of pensioners, there are no tax payments to the state, while the state pension prevails.

LITERATURE REVIEW

Household finance is the backbone of a modern financial system. Savings of the population are the most important potential source of investment, start-up capital for business development [Burdyak A. Ya., 2014]. The effective demand of households stimulates organizations to produce more different goods and provide a variety of services.

Personal income tax is an important revenue part of the republican and local budgets.

Meanwhile, there is a terminological confusion - there are many synonymous names for one and the same phenomenon: household finances, population finances; personal, personal, individual finances.

The category of personal (personal, individual) finances is fundamentally different from household finances in its focus on covering the needs of a specific person, and not a family or collective. On the other hand, a household can be represented by one person, then the concepts of personal finance and household finance become equivalent.

The household is different from the family. The separated relative will be a member of the family but not a member of the household.

The following features (characteristic features) of households can be distinguished:

- cohabitation and arrangement of everyday life;
- possession of certain resources;
- independence in making economic decisions;
- joint housekeeping;
- striving for maximum satisfaction of needs.

Before there was a special discipline in household finance, family economics and consumer economics were studied in foreign colleges for 100 years. For the first time, Hazel Kyrk (University of Chicago) wrote about personal finance (household finance) in her dissertation in 1920. Margaret Reid, professor of household economics at the same university, is recognized as one of the pioneers in the study of consumer behavior and household behavior.

In 1947, Herbert A. Simon, a Nobel laureate, suggested that a person does not always make the best financial decisions due to limited educational resources and personal inclinations. In 2009, Dan Ariely, who predicted the 2008 financial crisis, showed that a person makes irrational financial decisions, and the market does not necessarily self-regulate and correct any imbalances in the economy.

According to V.V. Ivanov and V.V. Kovalev [Kovaleva V.V., 2007], a household is a group of people who jointly make economic decisions. This definition is not entirely accurate, since, as mentioned above, a household can be represented by one person. A more precise definition would be the following: a household is a person or group of people who make economic

decisions. The above authors define the concept of household finance, which they consider as “the totality of monetary relations regarding the creation and use of funds of funds, into which the household and its individual participants enter in the course of their socio-economic activities”.

G.B. Polyak argues that “household finances are economic monetary relations carried out by individual members of the household to create, distribute and use funds of funds in the course of their activities in order to meet their vital needs” [Polyak G.B., 2004].

A.M. Babich, L.N. Pavlova consider household finances as “a set of economic relations that develop in connection with the formation and use of family budgets” [Babich A.M., Pavlova L.N., 2012]. This definition is not entirely accurate, since family and household are not equivalent concepts. A household can also consist of one person.

A.Z. Dadashev and D.G. Chernik, define household finances as “monetary relations regarding the distribution of the value of the social product and the formation of income and expenditures of the population” [Dadashev A.Z., Chernik D.G., 1997]. This definition corresponds to the distributive concept of finance, according to which finance is equated with cash. Meanwhile, the author of the work is leaning towards the reproductive concept, which interprets finance as economic relations.

M.F. Drigo defines the finances of the population as the relationship regarding the formation, distribution and use of funds of citizens [Drigo M.F., Romanov V.N., 2007]. This definition blurs the boundaries between monetary and financial relations and does not allow one to single out financial relations among the whole variety of monetary relations.

T.V. Fetisova considers the finances of individuals through the relationship between economic entities regarding the formation and use of funds of individuals [Fetisova T.V., 2010]. The use of the term “individuals” is not entirely correct, since individuals can be represented by individual entrepreneurs, and not only by households.

The category “household finances” occupies a significant place in the works of S.A. Belozarov. He interprets household finances as relations arising between their participants regarding the formation of family monetary funds with various purposes: an insurance reserve to maintain the level of current consumption; cash reserve to increase the level of capital expenditures; monetary fund for the purpose of its further investment and other [Belozarov S.A., 2005]. This definition requires some clarification. You cannot equate the concepts of family and household. Household members may or may not be related.

In addition, household finances are not only relationships between their participants, but also relationships with the external environment (government, commercial organizations, etc.).

E. Galishnikova examines the financial behavior of the population. In her opinion, financial behavior in a broad sense is understood as the behavior of households or individuals associated with receiving and spending money. [Galishnikova E.V., 2012].

RESULTS AND DISCUSSION

Summarizing the existing definitions, we can offer the following interpretation of the concept of household finance - a set of economic relations regarding the creation and use of funds of the population's money in order to meet the needs of life.

A key characteristic of household finance is financial literacy of the population, which enhances personal financial security and contributes to increased well-being [Stolyarova A.A., 2010]. The problem of financial literacy is widely discussed at various conferences and round tables [Scientific Research Financial Institute. Financial Journal, 2010].

TABLE 1 - ANALYSIS OF TERMINOLOGY CHARACTERIZING THE FINANCES OF THE POPULATION

	Term	Definition	Source
1	Citizens' finances	Financial relations of citizens with other economic entities arising from the movement of funds in the process of their formation and spending	Balabanov I.T. (1995) Citizens' finances (how Russians create and maintain wealth). M.: Finance and statistics, P. 9-10
2	Population (household) finances	The totality of monetary relations, manifested in special forms of income and expenses, and therefore in the formation and use of the budget of each household in order to meet personal and family needs	Dadashev A.Z., Chernik D.G. (1997) Financial system of Russia: Textbook. Allowance. M.: INFRA-M, P. 18
3	Household finances	The totality of monetary relations that develop regarding the formation and use of family budgets; economic relations arising from the real turnover of money in the household sector	Babich A.M., Pavlova L.N. (2000) Finance: Textbook. M.: ID FBK-PRESS, P.16
4	Household finances	The totality of monetary relations, manifested in special forms of income and expenditure, and through this - in the formation and use of the budget of each household in order to meet personal and family needs	Finance: Textbook. allowance / Shulyak P.N., Belotelova N.P. M.: Dashkov and K, (2001), P.57
5	Household finances	Personal finance, i.e. financial relations between individuals living together and leading a common household. Unlike a family, a household may include, in addition to relatives, also people who contribute their share to the household budget, as well as consist of one person who provides himself materially.	Milyakov N.V. (2002) Finance. M.: INFRA-M, P.12
6	Household sector finance	Financial relations, expressed in monetary form, arising from the formation, distribution and use of cash income and savings in the process of production and sale of goods, performance of work and provision of various services.	Chobanu K.G. (2003) Household finances in the system of national accounts // Statistical issues. No. 9. P. 14
7	Financial assets of the population	Includes deposits and deposits in banks (in rubles and foreign currency), investments of the population in securities, reserves of the population in cash and foreign currency, reserves of insurance premiums of the population; are formed from savings - the unused part of the monetary income of individuals or their families	Chobanu K.G. (2003) Household finances in the system of national accounts // Statistical issues. No. 9. P. 14

8	Household finances	The totality of monetary relations regarding the creation and use of funds of funds, into which the household and its individual participants enter in the course of their socio-economic activities	Finance: Textbook. / S.A. Belozerov, S.G. Gorbushin and others; Ed. V.V. Kovalev. M.: TK Welby: Prospect Publishing House, 2005. - P. 385
9	Personal finance	Population finance, household finance; finances not of individuals, but of their natural communities - families, households	Galanov V.A. (2006) Finance, money circulation and credit: Textbook. M.: FORUM: INFRA-M, P.281
1	Individual finance	The system of education and spending of individuals' monetary resources. Monetary resources function through individual budgets, off-budget funds, insurance, credit and other financial instruments	Fetisov V.D., Fetisova T.V. (2006) Finance and credit: Textbook. allowance. M.: UNITI-DANA, 2006. P. 63-64
1	Household finances (population finance)	The total income and expenses of the population, taking into account its structure (separate social groups, families, etc.)	Finance: Textbook. / Ed. S.I. Lushina, V.A. Slepov. (2006) M.: Economist, P. 109
1	Citizens and family finances	Distributive and redistributive relations in monetary form regarding the forced lowering, preservation, acquisition of a higher social status, solving problems of the current and future stages of the life cycle of the family and citizen. The author distinguishes from the term household finance the monetary relations of citizens associated with production activities (individual entrepreneurship)	Glushchenko V.V. Finance of the population in the context of globalization // Finance and Credit. (2006). No. 30 (234). P. 5
1	Household finances	The aggregate of monetary incomes and expenditures carried out within households as a specific sector of the national economy	Ekshembiev R.S. (2008) Personal finance in the financial system of the state / Ed. V.A. Slepov. M.: Magister, P. 12
1	Household finances	The system for the formation and use of monetary incomes of groups of persons living in the same room and leading a common household for the purpose of joint consumption and accumulation	Ekshembiev R.S. (2008) Personal finance in the financial system of the state / Ed. V.A. Slepov. M.: Magister, P. 15
1	Personal finance	The system of formation and use of monetary incomes of individual individuals in accordance with their decisions. Individuals make decisions about the use of income for consumption and accumulation	Ekshembiev R.S. (2008) Personal finance in the financial system of the state / Ed. V.A. Slepov. M.: Magister, P. 15
1	Household finances	The set of economic monetary relations associated with the formation and use of funds created as a result of individual activities	Finance: Textbook. / Ed. G.B. Pole (2008). M.: UNITI-DANA, P.496

1	Household finances	The set of economic relations regarding the formation, distribution and use of funds of funds, into which households and its individual participants enter in the course of their socio-economic activities	Belozarov S.A. Household Finance as an Element of the Financial System. Finance and Credit. 2008. No. 1, 34-35
1	Household finances	The totality of its financial assets and liabilities, as well as ways to effectively manage them in a market economy	Belozarov S.A. Household Finance as an Element of the Financial System. Finance and Credit. 2008. No. 1, 36-37
1	Household finances	Monetary relations within the household = family finance + personal finance	Glukhov V.V. Individuality of household finances. Finance and credit. 2008. No. 20 (308). 59-62
2	Family finance	Characterize the economic relationship between spouses	Glukhov V.V. Individuality of household finances. Finance and credit. 2008. No. 20 (308). 59-62
2	Personal finance	Individual family finances	Glukhov V.V. Individuality of household finances. Finance and credit. 2008. No. 20 (308). 59-62
2	Personal finance	Applying the principles of finance to the monetary decisions of families or individuals. Refers to the ways in which individuals or families receive, plan, save and spend monetary resources over a period of time, taking into account various financial risks and future life events. The components of personal finance can be control and accounting of savings, management in the areas of credit cards and consumer lending, investments in the stock market and retirement benefits, social benefits and tax optimization.	Wikipedia, the free encyclopedia. Режим доступа: http://en.wikipedia.org/wiki/Personal_finance

The financial resources of the household are in the form of separate monetary funds, which, as a rule, have a specific purpose. So, two main funds are created in the household: The consumption fund intended to meet the personal needs of this family group (purchase of food products, industrial goods, payment for various services, etc.);

Savings fund (deferred needs), which will be used in the future to purchase high-value goods (household appliances, real estate, etc.) or as capital for making a profit.

The stock form of financial resources allows you to link the needs of the household with the ability of the collective of the farm as a whole, as well as control how the needs of everyone in the farm are met.

Household finances interact with centralized finances (budgets - republican and local funds) and decentralized finance of enterprises of various forms of ownership, as well as with the financial

market. Between them there are continuous unilateral, bilateral and multilateral cash flows. There is a constant flow of cash flows between the household and the state. Household members provide labor to workers for the public sector, sell goods and services of their own production to the state, for which the economy receives wages and income. In addition, financial relations arise when paying taxes, fees, duties and deductions to the state treasury and social extra-budgetary funds.

However, households receive various cash transfers from the government, as well as public goods and services in kind. Cash flows arise from households and from the non-state sector of the economy - enterprises, organizations, companies.

As a result of the circulation of financial resources, households can meet their personal needs today and in the future.

Total income is the total amount of cash and in-kind income from all sources of income. The size of in-kind income can be estimated at the average selling prices of natural products produced by a household on the market.

The indicator of disposable income reflects the income remaining at the disposal of households after deducting taxes and mandatory payments.

Nominal income is the monetary income of a household for a certain period. Nominal income, in turn, can be divided into accrued and actually received. Actual nominal incomes may be more or less than those accrued by the amount of income received as a result of repayment of debts of the state and organizations for previous periods, as well as accrual and non-payment of income of the current period.

The difference between accrued and paid income can be significant, so income actually paid is critical to the household.

Real income reflects the amount of goods and services that can be purchased with the actual nominal income received. Real incomes depend on the ratio of the growth rates of disposable incomes and the growth rate of consumer prices. Real income of households are the most important indicator that determines their level of well-being.

For the purpose of social protection of the population, the state establishes the minimum wage (minimum wage). A significant part of monetary income (and for a significant part of the population (pensioners) the main source of income) are pensions and benefits. Benefits and payments for children (maternity, birth and childcare up to 2 years old).

1. Payments for pregnancy and childbirth (for working women).
2. Allowance for the birth of a child (for working and non-workingwomen).
3. Payments for the care of a child under the age of 2 years (for working people).
4. Allowance for families with children under the age of 14
5. Allowance for caring for a child until the age of 2 years
6. Material assistance to low-income families
7. One-time financial assistance to needy families in the Republic of Karakalpakstan and Khorezm region

8. Targeted social assistance
9. Housing payments
10. Unemployment benefits
11. Pension benefits
12. Lump sum payment for burial.

The standard of living is the level of well-being of the population, the consumption of goods and services, a set of conditions and indicators that characterize the measure of satisfaction of the basic life needs of people.

To predict the standard of living of the population and its state regulation, indicators of social guarantees of the population are used, such as:

- Subsistence minimum (minimum consumer budget);
- The value of the cost of living wage;
- The value of the "consumer basket" of food products;
- The limit of poverty;
- Minimum wage and minimum pension;
- Scholarship;
- Help and stuff.

The minimum consumer spending (MNR) in Uzbekistan, which will be used to determine the poverty line, preliminary amounted to 440 thousand soums per person per month.¹

The calculation of this indicator was carried out based on the goals and objectives:

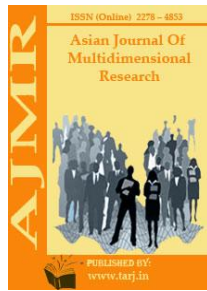
- On the introduction of an indicative indicator to determine the target (target) group of the population in need of material and other social support from the state;
- Using minimum consumer spending to determine the poverty line and take into account the real consumer properties and needs of the population in the target group;
- Improving the effectiveness and targeting of targets and measures identified in poverty reduction strategies and programs, along with their ongoing monitoring;

Indexation of household income is a change in the real income of the population by increasing cash income based on the official consumer price index for goods and services. In the mechanism of indexing the income of the population, the following are distinguished: a) the indexation threshold is the limit value of the price index for consumer goods, which necessitates the indexation of the income of the population; b) the percentage of increase in income; c) indexation period (time); d) indexation form - proportional, regressive.

Based on the foregoing, we can conclude that household finances are a solid foundation of the country's financial system and proper regulation, together with effective stimulation from the state and enterprise finances, will make it possible to use the economic potential of households in the implementation of effective economic reforms in the country.

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THE ROLE OF SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN FOREIGN ECONOMIC ACTIVITY

Dilfuza Valievna Rasulova*; **Nodira Bakhodirkizi Rakhimova****

*Doctor of Economics,
Head of the Department of Higher School of Business and Entrepreneurship,
UZBEKISTAN

**Master's Student,
Tashkent State University of Oriental Studies,
UZBEKISTAN

ABSTRACT

The article notes the development of small business and private entrepreneurship. Feedback on improving the business environment is provided. The author's approaches to the development of small business and private entrepreneurship and measures to further facilitate the business environment for their free activity are described. Also, an analysis of the role of small business and private entrepreneurship in foreign economic activity is presented, including the share of small businesses in the country's exports and imports.

KEYWORDS: *Entrepreneurship, Small Business, Private Enterprise, Gross Domestic Product, Entrepreneurship Promotion.*

INTRODUCTION

Today in our country is paid special attention to the development of small business and private entrepreneurship. Because the development of small business and private entrepreneurship is a strategic task of the economic policy of our state. Today, this sector is leading not only in accelerating economic growth, but also in addressing the issues of employment and increasing incomes, which are extremely important for our country. In recent years, more than 13 trillion soums of soft loans have been allocated to cover more than 600,000 families within the framework of "Every family is an entrepreneur", "Our youth future" and other social programs aimed at attracting a wide range of people to entrepreneurship and expanding their sources of income.

These programs serve as an incentive for the population to engage in entrepreneurial activities in the regions, to improve their living standards and increase employment.

At the same time, the experience gained and international practice require the formation of an integrated system of complex and complementary credit [1].

THE MAIN FINDINGS AND RESULTS

It is no coincidence that the President of the Republic of Uzbekistan Sh.M.Mirziyoev mention “We cannot fully solve the problem of building large enterprises, increasing employment and income, increasing budget revenues. The most important way to improve living standards is to develop entrepreneurship and small business” [2].

It is known that in 2010 the share of small business and private entrepreneurship in the GDP and its role in the development of the country's economy increased significantly. If in 2000 about 31% of GDP fell to the share of this actively developing sector of the economy, in 2010 this figure was 52.5%. The volume of loans to small businesses increased 1.4 times. In 2020, this figure reached 53.9 percent. This, of course, is the result of the fact that further deepening of market reforms and liberalization of the economy in Uzbekistan has been identified as a priority, and the mechanisms for its implementation are clearly defined.

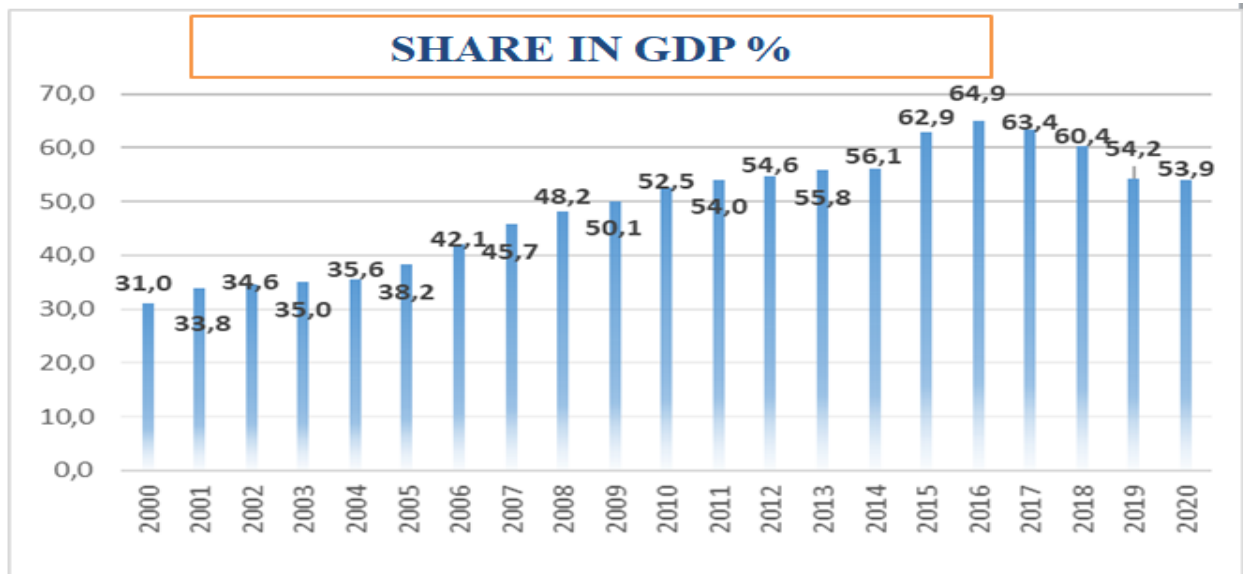


Diagram 1. Small business and private entrepreneurship Analysis of the dynamics of the share of the Republic of Uzbekistan in GDP (Source: Based on data from the State Statistics Committee of the Republic of Uzbekistan)

Currency plays a huge role in small business and the economy. Taking this into account, the Decree of the President of the Republic of Uzbekistan No. PD-5177 “On Primary Measures to Liberalize Monetary Policy” was signed and is scheduled to come into force on September 5, 2017. This decree was great news for entrepreneurs. The reason is that in the past, legal entities waited in line for 1 month to 1 year, in some cases up to several years, to receive currency. It should be noted that enterprises have the right to retain all the currency from exports. At present, small business, as a rapidly adapting sector of the economy, plays an important role in filling the domestic market with consumer goods, expanding new and modern types of services, developing export potential. Widespread implementation of decisions to support small business and private entrepreneurship, reduction of inspections, reduction of financial and time costs for doing business; As a result of the

introduction of the registration notification system, there are also positive trends in their foreign trade activity indicators. Also in order to facilitate small businesses

The Fund for Reconstruction and Development plans to allocate the equivalent of \$ 100 million to provide financial resources for entrepreneurship through training of young people and women in professional and entrepreneurial skills.

The equivalent of \$ 9 million of these funds will be provided on a non-discriminatory basis to finance measures to increase the interest and interest of the population in entrepreneurship in the regions; The equivalent of \$ 1 million to the Youth Affairs Agency on a non-discriminatory basis to fund youth entrepreneurship activities; The equivalent of \$ 90 million for loans to young people with a special certificate (\$ 45 million in total) and women (\$ 45 million in total) to JSCB "Microcreditbank" for a period of 7 years with a grace period of 3 years at an interest rate 4% below the Central Bank's base rate directed. The above decrees not only further facilitate entrepreneurial activity, but also lead to the intensification of the participation of these entities in foreign economic activity.

The growing share of private entrepreneurship and small business in the country's total exports and imports over the past 10 years is a clear proof of this.

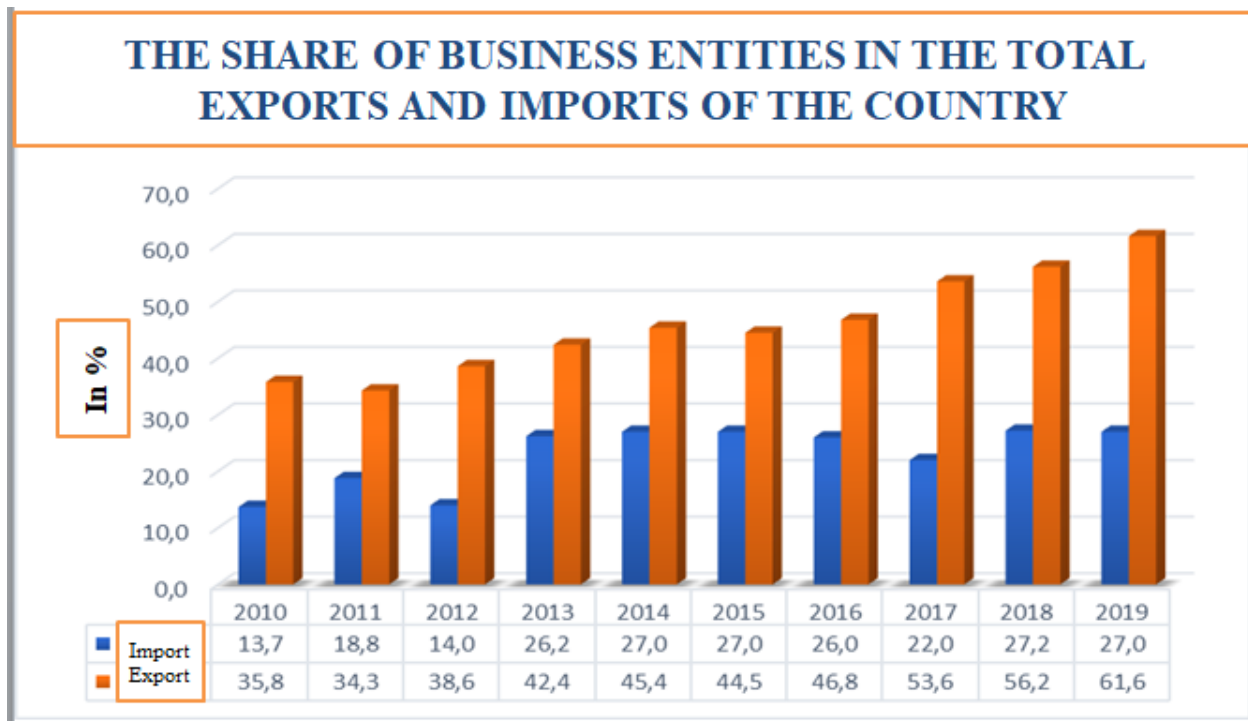


Diagram 2. Analysis of the dynamics of the share of small business and private entrepreneurship in exports and imports of the Republic of Uzbekistan(Source: Based on data from the State Committee of the Republic of Uzbekistan on statistics)

In 2019, the share of business entities in the country's total exports increased by almost 2 times compared to 2010, while in the country's imports increased from 35.8% in 2010 to 61.6% (or 1.7 times) in 2019. The main reason for such a sharp increase in exports in recent years is the favorable conditions for exports, the removal of currency restrictions, increased legal literacy of private businesses, the increase in the share of imports in the financing of small businesses,

“Every family is an entrepreneur” and “Youth Our future” and the purchase of equipment and other technologies from abroad.

In this article, we want to outline the challenges we face to further develop this area. The Agency for Youth Affairs should make it possible to place social orders on a competitive basis for the production of “coaching” videos and textbooks, motivational videos aimed at improving the lives of the population, earning a living through professions and businesses and teaching them the practical aspects of such activities.

From November 15, 2020, the following order of state support for the training of young people and women in professional and entrepreneurial skills has been established:

For each graduate (youth, women) who completed training courses organized on the basis of entrepreneurship development programs and established requirements, 70% of the cost of non-governmental educational institutions for vocational and business education, but not more than 1 million soums per graduate compensated;

Individuals who successfully complete the courses of non-governmental educational institutions on vocational and business training and receive their certificate (hereinafter - the special certificate) will be allocated microcredits to start their own business.

From November 15, 2020, an electronic register of non-governmental educational organizations participating in vocational and business education programs is being formed and its transparency is required;

From January 1, 2022, it is planned to launch a single system of entrepreneurship training on the basis of international standards, including training programs and systems of entrepreneurship of the International Labor Organization and other international organizations with the involvement of foreign experts.

JSCB “Microcreditbank” provides microcredits in the amount of up to 33 million soums without collateral to individuals with entrepreneurial initiatives, including youth and women, who have received a special certificate from non-governmental educational organizations.

Microcredits up to 225 million soums are provided to founders of micro and small enterprises on the basis of third-party guarantees, insurance policies, collateral for property purchased on credit, guarantees of the State Fund for Entrepreneurship Support and other types of security provided by law.

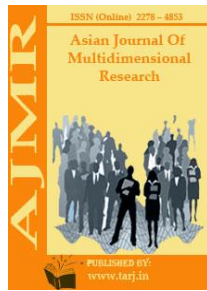
CONCLUSION

While the ultimate goal of reforms in our country is to improve the living standards of the population, the role of small business and private entrepreneurship in this area will continue to grow and serve as a bridge between the population and the state in achieving this goal.

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FACTORS INFLUENCING THE PROCESS OF WET-HEAT TREATMENT OF CLOTHING PARTS AND THEIR INTERRELATION

Jamoliddin Samatovich Ergashev*; **Dilrabo Khabibullaevna Rayimberdiyeva****;
Nizomjon Adashaliyevich Ismatullayev***;
Orifkhon Khasankhon ogli Madaliyev****

*Professor,
Doctor of Technical Sciences,
Namangan Institute of Engineering and Technology,
UZBEKISTAN
Email id: ergashev64@mail.ru

**Senior Teacher,
Namangan Institute of Engineering and Technology,
UZBEKISTAN
Email id: rayimberdiyevadilrabo@gmail.com

***Assistant,
Namangan Institute of Engineering and Technology,
UZBEKISTAN
Email id: isnizom1988@gmail.com

****Master's Student,
Namangan Institute of Engineering and Technology,
UZBEKISTAN
Email id: orifkhonmadaliyev@gmail.com

ABSTRACT

In this article, the formation of garments by wet-heat treatment depends on the decoration of garments, the appearance, quality and, in many respects, the wet-heat process in the sewing process, as well as in the final decoration. . The processes of moisture, heat and pressure treatment of fabrics in the process of wet-heat treatment of garments were analyzed.

KEYWORDS: *Ironing, Steam Air Mannequin, Volumetric, Spatial Shaping, Steaming, Splitting, Folding To One Side, Folding The Edges Of Details, Ironing Thinning, Inserting Ironing, Stretching Ironing, Embossing, Glue.*

INTRODUCTION

Wet and warm work is very important in the technological process of sewing clothes. It has a great impact on the quality of garments. This process gives the garment a certain shape and improves its appearance.

Wet-heat treatment takes a significant part of the time spent on sewing and decorating garments. For example, 20-25 percent of the total time spent on sewing outerwear is spent on wet-heating operations.

In the process of production of garments, ie to bring the product to the finished state, first of all, the methods of processing small parts of the product are carried out. When sewing outerwear, small details such as pockets, collars, backpacks, inner pockets, bortovka are first processed.

The sewing production process is carried out in three stages: preparation, assembly and decoration. In the manufacturing department it is planned to process small details of the product. In the assembly department, the task is to attach small details to the main parts of the product. In the final part, ie in the decoration department, the finished product is required to carry out finishing work.

THE MAIN FINDINGS AND RESULTS

It is known that the threads in the fabric are located in it lengthwise and crosswise, are located differently from each other, are intertwined differently, and can be in different layers of the fabric. Due to the structure of the fabric, the fibers are on its surface or inside, they have tensile, elongation and compressive stresses.

When forming a fabric, it should be taken into account whether the fibers in the yarn are derived from plants or animals, artificial or synthetic. In wet-heat treatment, conditions are created artificially that loosen the molecular bonds of the fibers in the fabric. Then the probability and possibility of achieving a sufficiently stable deformation increases sharply. In production, they use heat and moisture to achieve this goal.

The quality and appearance of the products largely depends on the wet-heating process during the sewing process, as well as in the finishing process. The main purpose of wet-heat treatment is to give a three-dimensional shape to the details of the product and the processing of various seams, cut-outs, gluing details. During the wet-heat treatment, the fabric is exposed to moisture, heat and pressure.

This process consists of three stages:

- 1). Softening of fibers with moisture and heat;
- 2). Giving a certain shape by pressure;
- 3). Remove heat and strengthen shape using heat and pressure.

Ready-made clothes can be ironed or steamed on a steam-air mannequin.

As a result of the above three types of wet-heat treatment, the following wet-heat treatment operations are used in the garment industry:

It is known that the threads in the fabric are arranged lengthwise and crosswise, are intertwined and can be in different layers of the fabric. Because of the structure of the fabric, the fibers are

on its surface or inside, and they have tensile, elongated, and contractile stresses (these stresses are caused by the fibers being twisted and the yarns twisted together).

When the fabric is shaped, it must be taken into account whether the fibers in the yarn are of plant or animal origin, artificial or synthetic. During wet-heat treatment, conditions are created artificially that loosen the molecular bonds of the fibers in the fabric. Then the probability and possibility of achieving a sufficiently stable deformation increases sharply. In production, they use heat and moisture to achieve this goal. Whenever an object is heated, the kinetic energy of the molecules in it increases, and the molecular bond is loosened.

Amorphous (shapeless) polymer fibers in sewing come in three different physical states. These are glassy, highly elastic and viscous. Each of these cases corresponds to a specific set of physical properties.

At low temperatures (the temperature for sewing materials is the temperature of the human body and the surrounding air), the deformation in the vitreous state is small and disappears. At high temperatures, the deformation is large and does not disappear. This is due to the soft flow of the polymer. The state of high elasticity inherent in polymers corresponds to a certain temperature range between the glassy and viscous elongation states.

There are three types of wet work in sewing: ironing, pressing and steaming.

Ironing. Pressing the heated surface of the iron lightly on the cloth and pushing it along the dampened part is called wet ironing.

Depending on the method of heating, the irons are divided into steam, electric and steam-electric irons. The difference between steam irons and electric irons is that they not only iron the part but also steam it. Wet and hot work on steam irons is performed without an iron. There are special ironing boards for steam irons (Fig. 1, a).

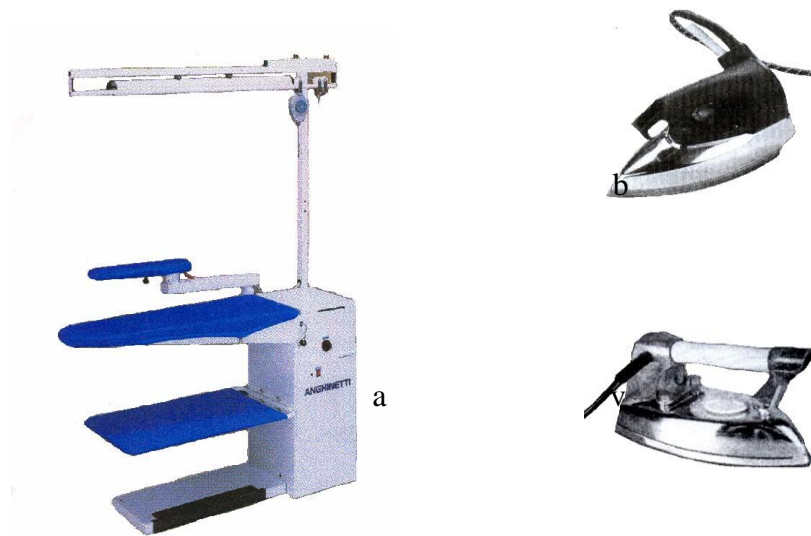


Figure 1. Special ironing board (a), steam electric (b), electric (c) irons.

Steam-electric irons are a combination of steam iron and electric iron, in which dry steam is formed by simple heating. Steam - water is supplied through a flexible hose mounted on the

electric iron (Fig. 1, b and c) and the water is heated to steam. The heating temperature of the iron is 60-2300 C, the weight of the iron is 2.1 kg.

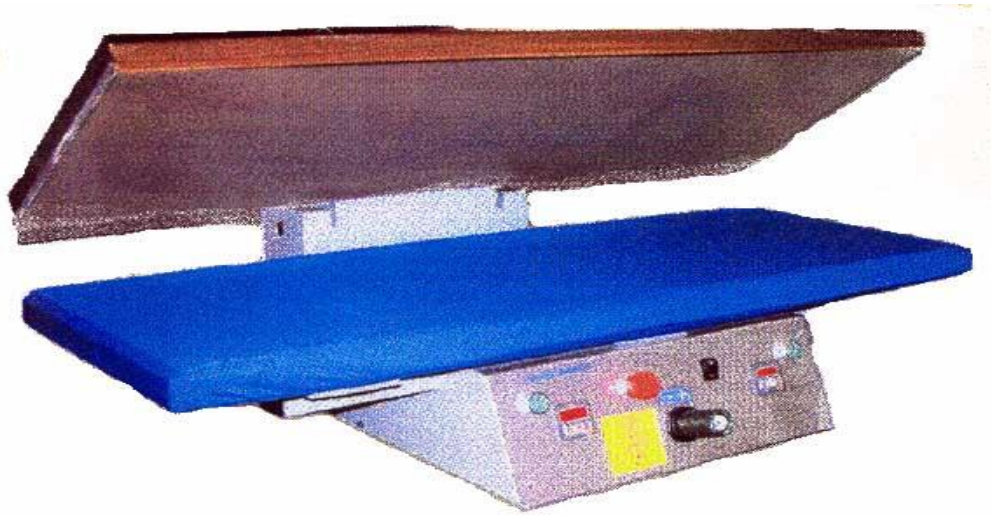


Figure 2. TVGPTA 120 P pneumatic press (v)

The presses allow to mechanize the most labor-intensive operations in wet-heating, increase productivity, improve the quality of processing and facilitate the work of workers. The presses differ in the type of drive, the pressing force and the type of pads. The presses can be mechanical, electrical, pneumatic or hydraulic (Figure 2).

Evaporation. Evaporation is the process of wetting and heating the fabric under the influence of steam pressure, not under the influence of heated surfaces. Evaporation reduces the tension in the fabric fibers, which makes the fibers non-shiny. Fabrics are steam-decocted before use in garment factories. When it evaporates, wet steam is sprayed on the fabric. Wet steam moistens and heats the fabric. The fibers swell and heat from moisture. The kinetic energy of gas particles has a mechanical effect on the fibers.

The wet-heat treatment of the fabric is used to shape the details of the garment and to finish the product. During wet-heating, the fabric is moistened, exposed to heat and pressure using an iron and press.

As a result of pressure on the fabric, the detail is given the desired shape, the edges are bent, the fabric is formed, wrinkles and uneven areas in the fabric are corrected.

Moisture is removed and the fabric is cooled to maintain the shape given to the detail.

Wet-heat treatment has a significant impact on product quality and product appearance.

The wet-heat treatment process is divided into 3 stages:

1. Preparation of the fabric for molding.
2. Shaping the fabric.
3. Reinforce the given form.

The temperature of the work equipment in stage 2 should be 105-12000 C. The shape formed in step 3 should be retained when the fabric fiber cools rapidly. It is known from scientific research that the heat retention of a fiber does not change at the following temperatures:

jun– 1300-1350 C each

cotton, flax - 1500-1700 C.

viscose– 1200-1300 C each

ammonia - 1200 C each

acetate 950-1000 C each

polyester - 1600-1700 C each.

Due to the negative thermal conductivity of the fabric, moisture has a significant impact on the quality of wet-heat treatment.

Studies have shown that when processed through a damp cloth, a 4-layer suit fabric can be heated to 130 C at temperatures up to 1000C.

Then the fabric goes to the drying stage. When using a damp cloth, the temperature can be raised to 110-1200 C to stop ironing.

The wet-heat treatment process in steam presses allows to achieve almost stable steam parameters, as well as to accelerate the processing process by increasing the steam pressure.

Wet-heat treatment of the product is carried out on electric and steam presses, air mannequins, irons.

The control of the wet-heat treatment mode is carried out by means of devices that allow to measure the following parameters:

- a) The surface temperature of the working bodies;
- b) Surface temperature of the working medium;
- c) The density of heat flux transferred from the working body to the workpiece;
- g) The pressure exerted by the working bodies on the product;
- d) Duration of processing;
- e) temperature, humidity and pressure of the working medium at different internal points of the fabric.

Various thermometers, thermometers, resistance thermometers are used to measure temperature.

The maintenance of the parameter mode is performed on the following special control and measuring devices:

- 1) temperature regulators;
- 2) devices for determining the duration of processing (steaming, drying, cooling);
- 3) electric and pneumatic steam and vacuum devices for spraying the product with water, as well as for humidification with steam;
- 4) electric, pneumatic and hydraulic cylinders providing the required pressure.

The working area of the working surface of the iron and press pads is determined using a portable meter IT-3, IT-5.

Wet-heat treatment operations are divided into 4 main stages:

1. Introduction and extension.
2. Presslash.
3. Ironing.
4. Evaporation.

Insertion - shorten the fabric as much as possible.

Stretching is keeping the fabric stretched.

Pressing - thinning of fabric, edges, seams, seams, as well as laying and tearing of edges, seams, seams.

Ironing - used to smooth out uneven and wrinkled fabrics.

Evaporation is used to remove the shine caused by pressing and ironing.

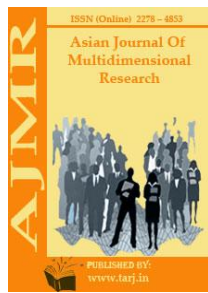
- a) an independent part of the work is to study the requirements for wet-heat treatment;
- b) students should draw the types of pillows of the presses they see in the enterprise and study the press marks.

CONCLUSION

Studies have shown that wet heat treats up to 7.5-15% of the weight of a garment, but the amount of steam is not limited to the final ironing or steaming of the garment.

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ON THE THEORETICAL AND PRACTICAL FOUNDATIONS OF LANGUAGE CORPORA

Nurislom Iskandrovich Khursanov*

*Teacher,

Department of “Intercultural Communication and Tourism”,
Tashkent State University of Uzbek Language and Literature named after Alisher Navoi,
UZBEKISTAN

Email id: nurislomkhursanov92@gmail.com, khursanovnurislom@navoiy-uni.uz

ABSTRACT

The article discusses the language corpus, their theoretical and practical basis, the principles of formation of corpus linguistics, which is one of the most convenient ways to find, store, process and communicate existing information. Also, the author: the use of the corpus in the educational process allows users to identify professional-relevant aspects of language acquisition, and the corpus also draws the user's attention to the means of linking the unit in the text. This suggests that the corpus provides a basis for a group of language learners to apply a differential approach, which is a key factor in career-oriented education.

KEYWORDS: *Artificial Intelligence, Computer Linguistics, Corpus Types, Computer Linguo-Didactics, Author's Corpus, Grammatical Analysis Of Language Units.*

INTRODUCTION

It is no secret that the new directions in world linguistics, which examine the integral relationship of language with practice, speech, society, culture, national thinking, and even artificial intelligence, pose new challenges to our science. There is a growing need for convenient ways to find, store, process and communicate existing information. This created a huge challenge for the computer technology industry, a great invention of the 20th century. In order to improve the quality of automatic translation in the field of computer linguistics, linguistic modeling of language, the theory and algorithm of lemma of words in each language and their use in the centuries-old national and cultural heritage of a particular language, their electronicization has become a topical issue in world linguistics. In linguistics, especially in the field of computer linguistics, the creation of a corpus, the expansion of the existing corpus, the development of programs for automatic word processing are among the important issues that need to be addressed. National corpus of Uzbek language, its peculiarities, and social, lexical, educational

and other significance, history of corpus linguistics, types of corpus, study of linguistic value of corpus, creation of Uzbek national corpus is the main criterion for the development of linguistic bases. The work under review is important in that it seeks to find solutions to these problems.

The language corpus and related science - corpus linguistics - entered the field of linguistics and language teaching methods in the late 1980s and early 1990s. As a result, the concept of an educational corpus has emerged in science. Educational corpus - software, information that serves to learn their native language and other languages, increase vocabulary, master the existing scientific norms of the language, the formation of competencies in the practical use of language is the base. This corpus is goal-oriented, practical, and has a huge impact on the development of logical thinking. In foreign practice, learning a language using computer tools is called CALL (Computer Assisted Language Learning). In the work of Russian researchers, the introduction of new information technologies in language teaching is called *computer linguo-didactics*.

M.A. Bovtenko describes computer linguo-didactics as “the field of linguo-didactics that studies the theory and practice of the use of computer and network technologies in language teaching” [1, p. 118]. The biennial corpus technology conferences on the practical application of corpus in language pedagogy have been held in Lancaster, Oxford, Grats, Bertinoro, Granada, Paris and Lisbon since the 1990s and have been hotly debated by scholars. In particular, Lich’s research focuses on the direct and indirect methods of using the corpus in language teaching [2, pp. 364-373].

According to him, direct use in education involves the addition of publications through the corpus, the development of teaching materials, testing of knowledge of the language, while direct use involves teaching how to use resources and the corpus to teach the language to a certain extent. In this regard, the educational corpus can be classified as follows:

- Special purpose building;
- Development corpus for mother tongue teaching;
- Corpus for teaching as a second or foreign language.

Although corpus linguistics is a new field in world linguistics, there is a lot of targeted research in this field. The views of the founders of the Brown Corpus N. Francis, G. Kuchera on the principles of building a corpus, the theoretical and practical proposals of Russian linguist’s V.P. Zakharov, A.B. Kutuzov, Y.V. Nedoshivina, V.V. Rikov, and V. Plungyan can be considered as preliminary research on the corpus [3]. These specialists studied the corpus, its types, peculiarities, the social significance of the corpus, the principles of building the corpus [4, p. 26]. Although the study of methodology in world linguistics has a very long history, we are not familiar with the study of the function of determining methodological adaptation in language corpora. Uzbek corpus linguistics is gaining a unique way of research with similar research and practical developments.

THE MAIN FINDINGS AND RESULTS

In Uzbek linguistics, a lot of research has been done in the field of computer and corpus linguistics. The issues of methodological tagging of units in Uzbek language corporations have not been the subject of special research, but some problems of computer linguistics, such as the creation of linguistic software for computer programs based on action verbs [5], Uzbek-English

machine translation linguistics [6, p. 52], the principles of formation of the Uzbek language author's corpus [7, p. 250], problems of graphic analysis of Uzbek language units [8, p. 164, 320], principles of formation of the linguistic base of the language corpus [9, p. 140] are studied in the monographic plan. However, the above-mentioned research does not address the issue of methodological tagging of Uzbek language corpus units. The advantages of the corpus in language pedagogy have been extensively studied abroad. Learn about the benefits of a corpus-based approach to world language learning and teaching as a mother tongue and a foreign language or a second language in the research of leading scholars such as TonnyMcEnery, Richard Xiao, Eric D. Brill, SaminaDazdarevik, Amela-LukacZoranik, FahretaFijuljanin possible [10, pp. 1-29-133]. In particular, Eric Atwell's "Corpus linguistics and language learning", S. Granger's "Learner corpora" [11, pp. 259-275], P.V.Sisoev's "Language corpus in the methodology of learning foreign languages" ("Lingvisticheskiy korpus v metodike obucheniya inostrannym yazykam") [12], YelizErgül's dissertation on "The effectiveness of using corpus-based materials in vocabulary teaching" is noteworthy. The author of the textbook "Corpora in the classroom", Associate Professor of English Philology at the University of Vilnius John Grigaliūnienė stressed the importance of introducing a corpus-based approach to language teaching and asked what opportunities the language corpus has for research, teaching and learning. gives 6 arguments in response: 1) authenticity; 2) impartiality, neutrality; 3) the influence of many examples in language; 4) a new approach to language learning; 5) increase students' interest; 6) The student becomes a researcher who studies the data and draws conclusions using the corpus [13, p. 81]. Apparently, the development of software tools for teaching the native language, as well as foreign languages in world linguistics, assessment of the quality of computer tools for language teaching, the peculiarities of the use of computer technology in the educational process, educational and much attention is paid to the study of the location of linguistic corpora. G. Leach was one of the first to conduct research on the emergence and development of corpus linguistics [14, pp. 105-122]. Research on the formation of modern corpus linguistics has been carried out by English scholars such as S. Houston, D. Bieber, S. Grace, M. Halliday, and W. Theubert [15, p. 234]. Russian scientists V.Baranov and V.Zakharov have a detailed approach to the specifics of corpus linguistics, N.Vladimov, S.Vadyaev, O.Gorkina, V.Mamontova and A.Magametova have a comprehensive approach to the concept of "corpus linguistics", the concept of "linguistic corpus" and its classification [16, p. 320]. In the study of Tajik Scholar D. Djafarova, corpus linguistics is compared with computer linguistics and other similar fields [17, p. 151]. While the work on the use of corpus analysis in lexicography has been observed in the research of A. Kilgarrif, K. Iztok, F. Carlson and I. Sogen, scientists such as V. Rikov, A. Romanov and V. Plungyan have used the method of applying the concept of "corpus" in text analysis developed [18, p. 37]. Among such researches in Uzbek linguistics is the educational building created at the Tashkent State University of Uzbek Language and Literature named after AlisherNavoi under the leadership of Professor L.Raupova within the practical project AM-FZ-201908172 "Creation of the educational corpus of the Uzbek language". can be added. In recent years, a number of works in this area have been defended. M.Abjalova Grammatical analysis of Uzbek language units [8, p. 164], Sh.Khamroyeva General principles of development of semantic tags [19, p. 253], A.Eshmuminov Formation of synonymous word base of the national corpus, interpretation of synonymous words in the corpus, studied database placement issues [9, p. 140], D.Akhmedova studied the expression of lexical-semantic relations between words in the national corpus of the Uzbek language [9, p. 140]. D.Akhmedova rightly points out that in most of the existing language corporations the semantic

search is not explained in detail as an explanatory dictionary. Also, the problems of creating an Uzbek-English parallel corpus [20], the formation of a database on the interpretation of meanings in the educational corpus [21, pp. 46-47], the technological process of creating a national corpus [22, pp. 57-64], open source terminology a number of articles have been published on the creation of databases [23, pp. 4-10], and textbooks and dictionaries on corpus linguistics have been created [24, pp. 52, 96]. Thus, the number of scientific researches on corpus linguistics in our linguistics is growing from year to year. The work of the above-mentioned specialists is an important factor in creating an educational and terminological corpus of the Uzbek language.

RESULTS AND DISCUSSIONS

In our opinion, the use of information technology, e-learning resources in the teaching of the Uzbek language as a mother tongue and a foreign language in the Uzbek linguo-didactics will lead to positive changes in the quality and content of education. Extensive research is being conducted today on the use of corpus and information technology in education. In particular, in the article "Formation of a database on the interpretation of word meanings in the educational corpus" U.Kholiyorov made recommendations to expand the corpus with the function of viewing the interpretation of a particular word. spoke about the principles of creating a comprehensive database [24, pp. 46-47]; Sh. Khamroyeva's study, *The Use of the Corpus in Education*, highlights the need for the corpus in the teaching profession, for students to acquire knowledge based on the theory of constructivism, for independent work, and for the preparation of various learning tasks [25, pp. 22-23]. In her dissertation, Sh. Yusupova focuses on the use of non-traditional methods and computers in improving the effectiveness of mother tongue education [26, p. 26]. In S. Adilova's work, the content of Uzbek language education in Russian-speaking groups is determined in accordance with the principles of membership and continuity, and the theoretical basis for the organization of computer-based classes in teaching this subject is included in the Uzbek language program. A project (model) of educational electronic developments has been developed [27, p. 152]. Language teaching in the "National curriculum of general secondary education in the Uzbek language", consisting of six sections, created by researchers such as S.Muhamedova, G.Asilova, D.Xidoyatova, I.Bakirova, F.Rahmatova, N.Rasulov and N.Yuldasheva on the basis of effective experience in teaching another language Improving the methodology on the basis of modern requirements is one of the important steps in raising the quality of education to a new level. Many languages have their own educational buildings. For example, the Russian National Corpus has an educational corpus as an internal corpus, which is one of the development corpus for teaching the language as a mother tongue. This sub-corpus is designed to show the use of grammatical homonyms in the text for language teaching in Russian schools [28]. Bank of English (200 million words) is one of the most convenient tools for learning a language. There is also special corpus representing oral and written literary language - CANCODE (Cambridge and Nottingham Corpus of Discourse in English), MICCASE (Michigan Corpus of Academic Spoken English) LIBELCASE (LIBEL Corpus of Spoken Academic). English - Limerick-Belfast Oral Academic Speech Corpus) has become an invaluable tool of linguo-didactics [29]. One such corpus for teaching as a second or foreign language is the International Corpus of Learners. Its search interface has the ability to sort data. The Computer Learner Corpus - CLC has two goals: "second language acquisition" and "foreign language teaching - FLT". These types of housings are easy to use and open. The International English Language Corpus has the following features [30, p. 126]. The PELCRA Corpus is a corpus dedicated to teaching English as a foreign language and consists of essays written by students of Polish universities at various levels. In the ICLE corpus, which consists of

essays written by German-speaking students in English, students were able to achieve high results in writing essays using monolingual dictionaries.

T. Jones, who supports the corpus approach to education, states that the student's task is to “make discoveries” in the language being studied [31, pp. 1-16]. According to G. Leach, it is the corpus-based task that allows the student to test himself as an “experimenter”: the student does not use existing ideas, but independently conducts original research [32, pp. 1-23]. Michel Barlow states the following when using the case [33]:

- Comparing the speech of a learner of a language;
- Compare and contrast language styles in books, textbooks, and publications;
- Determining the order of words in a sentence in a particular language.
- Comparison of literary oral and written language.

CONCLUSION

The use of the corpus in the educational process allows the student to discover the professional-relevant aspects of language acquisition. For example, in language courses, it develops the ability of the prospective translator to focus on lexical units and the lawyer on terminology. The academic corpus also focuses the student's attention on distinguishing the means of linking unity in a text. In this way, the corpus allows a group of language learners to take a differentiated approach, which is a key factor in career-oriented education.

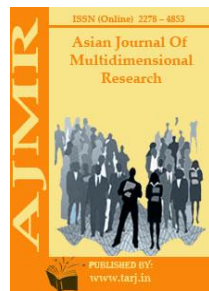
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PECULIARITIES OF CHINESE TRANSNATIONAL COMPANIES (ON THE EXAMPLE OF SINOPEC)

Javohirjon Damirjon Ugli Toirov*

*Master Degree,
Tashkent State University of Oriental Studies,
UZBEKISTAN

ABSTRACT

The article looks at the concept of peculiarities of Chinese transnational companies (on the example of sinopec). The Chinese leadership strategically explains the development of its TMKs by establishing Chinese TMKs and substantiating the order of their evolutionary processes. Dividing into different stages of "maturity" in terms of the emergence of TMCs in the Chinese economic system, can be divided into four categories (categories) on the reasons for foreign investment of Chinese enterprises. Having done an extensive analysis of the research materials, the author makes a conclusion about the urgency strengthening measures for social protection of the population in order to avoid further economic recession.

KEYWORDS: *Globalization Processes, International Associations, Global Financial and Economic Crisis, Chinese Transnational Corporations, Economic System, Four Categories (Categories), Foreign Investment of Chinese Enterprises.*

INTRODUCTION

In addition to continuing to develop a strong and modern industrial economy by modernizing the national economy for its domestic needs, China is striving to support and develop large Chinese transnational corporations (TNCs), one of the key areas of Chinese leadership's economic security activities. Because the leadership of the People's Republic of China has clearly realized that the rapid economic growth of previous decades has shown that China is strongly dependent on foreign capital and its transnational companies will play a major role in enhancing the future competitiveness of the national economy.

The Chinese leadership strategically explains the development of its TMKs by establishing Chinese TMKs and substantiating the order of their evolutionary processes. Dividing into different stages of "maturity" in terms of the emergence of TMCs in the Chinese economic system, can be divided into four categories (categories) on the reasons for foreign investment of Chinese enterprises.

We will not list and comment on each of these categories in this article, but will briefly comment on the second category that pertains to the topic of our article. Companies in this second category are engaged in investing in the extractive industries of foreign countries in order to bring natural resources to China for further processing. The supply of basic carbon raw materials and other mineral resources needed to sustain sustainable high economic growth in China is significantly lower per capita, and the problem of resource scarcity is leading to a sharp shift in measures to accelerate economic development.

MAIN PART

Here, first of all, of course, we are talking about ensuring the energy security of the PRC as an important component of economic security in general. Given China's low energy efficiency and the extremely erratic structure of its energy balance, relying solely on foreign or imported resources is not commensurate with the ever-growing needs of the Chinese economy. At the same time, investing in the production of natural resources abroad significantly reduces the cost of production and is a guarantee of uninterrupted supply of energy carriers to the territory of China. In this regard, Chinese TMKs play an important role.

In this regard, the analysis of the specifics of the activities of Sinopec (China Petrochemical Corporation), the largest oil and chemical association in China, which is active in China's domestic and foreign markets, can serve as an example to fully understand the development of modern Chinese transnational corporations.

China's Sinopec is a leading company with high potential in Chinese energy in foreign economic expansion.

Historically, China has been importing hydrocarbons from politically unstable Middle Eastern regions. It has long-standing energy ties with Iran, and the existing supply route is mainly by sea, a route that is much longer and more risky from a security standpoint. In this regard, the investment of such entities is usually undertaken by large state-owned enterprises such as CNPC (China National Petroleum Corporation) or Sinopec (China Petrochemical Corporation), which are engaged in active expansion, which is more stable in terms of security. Chinese TMCs buy oil and gas assets, engage in geological exploration and production of energy resources in various regions of the world rich in natural resources, the poorest countries in Africa, South and Central Asia and Latin America. In addition, they have been actively influencing European companies in the Russian nuclear energy sector and alternative energy issues by establishing partnerships with U.S. high-tech energy companies and providing multibillion-dollar loans for infrastructure projects in Russia's energy sector. Chinese companies are gaining important positions in other commodity markets as well as in the world food markets. All this is a guarantee of China's economic security, while at the same time helping to address important geopolitical challenges that China calls a "light" force.

In the global search for new sources of Chinese oil and gas, there are three - China National Petroleum Corporation (CNPC), China National Offshore Oil Corporation (CNOOC) and China Oil and Chemicals, widely known as Sinopec. leading the largest national companies such as the corporation. China's Sinochem chemical company is also a major player in the development and exploration of gas fields, and it is also gradually engaged in oil exploration and production. But it should also be noted that this company has not yet joined the ranks of China's major energy giants.

The companies listed above form a group called conglomerates (associations) or tsixuan (jítuán), all of which are headquartered side by side along a second ring road in Beijing, known as the “conglomerate line” (jítuán lù). Sinopec and CNPC are the largest state-owned enterprises in China. According to the data, together with CNOOC, these three companies accounted for 24.1% of total sales revenue, 23.5% of revenue and 40% of taxes collected from state-owned enterprises in 2007.¹ Sinopec has steadily strengthened its international position, becoming the fifth largest multinational corporation in the world in 2012 in the Fortune Global 500 ranking², In 2014, it ranked 24th in the UNCTAD rankings³, 2nd place in the TOP-10 of the Fortune Global 500 rating in 2015 (with 446.8 billion revenue)⁴, From 2011 to 2015, it ranked 2nd among the top 100 companies in China.⁵

The origins of the largest energy conglomerates differ from those currently reflected in the different spectra of their practices. Sinopec and CNPC originated from state monopolies established in the 1950s on the basis of the Ministry of Petroleum and the Ministry of Chemical Industry. While CNPC was primarily focused on oil and gas production within the country, Sinopec’s mission was to refine, market and produce oil and gas products.

In addition, the activities of these companies also had a clear geographical definition, with CNPC controlling northern China and Sinopec controlling the southern regions. The companies carried out the initial public offering of shares in order to increase capital and subsequently expand abroad.⁶

In 1998, at the initiative of Chinese Prime Minister Zhu Junji, as part of a large-scale radical reorganization of state ministries and agencies, the Chinese leadership set goals to increase the efficiency and profitability of the largest state-owned companies. registered as. They have great opportunities to run a profit-oriented business, even on a global scale, rather than depending on government programs. The central idea of the reorganization was to define a more precise division of labor between structures, specific types of production, that is, between mining operations and oil production, or refining and marketing responsibilities and tasks.

Such a distribution was intended to bring long-term competitiveness and greater efficiency to international energy companies capable of extracting, producing, processing, and branding a significant share of the brand on an international scale. After the reorganization of CNPC, it transferred some of its assets in the field of oil extraction and production to Sinopec. The preservation of state property and public investment in companies is seen as a competitive advantage over the world’s leading oil companies, and this is a hallmark of Chinese TMCs.

RESULTS AND DISCUSSIONS

The goals set at the beginning of the reorganization were achieved. The restructuring of the oil companies market, which in many ways is similar to the telecommunications market, has been described as “oligopolistic competition”. Under it, formal structures based on the former Soviet model were eliminated and rationally organized, resulting in a transnational corporation focused on international trade. In the period following the structural changes in China’s oil sector, it was time for Sinopec to grow rapidly and diversify its activities. Today, Sinopec is an integrated chemical and petroleum company engaged in the exploration and sale of oil and gas and the production of related products. The company is still the largest producer of other products with refining in China. However, at the same time, the company is expanding its global presence, implementing major investment projects in countries such as Algeria, Angola, Australia, Ecuador, Iran, Russia and Saudi Arabia. Sinopec was one of the first to explore for gas underwater off the

coast of Angola and in Saudi Arabia. The acquisition of the Swiss-based exploration company Addax Petroleum in 2009 was the largest acquisition by a Chinese company of a foreign company. In 2010, Sinopec acquired an 18% stake in a deepwater gas project implemented jointly with Indonesia's Chevron.⁷ Sinopec has acquired the right to explore fields in the oil-rich sands of Colombia and Canada, and has shares in oil companies in countries such as Brazil, Switzerland, Russia and Kazakhstan. Sinopec also has large processing facilities in Iran.

At the same time, it should be noted that there are challenges that the company faces in its development process. In general, one of the biggest problems for the Chinese economy and society is corruption. Despite government measures to combat bribery, in 2009 one of the company's senior managers was arrested and sentenced to death for accepting more than \$ 28 million in bribes. The resignation of Su Shulinya, the company's chief executive, in 2011 was sparked by a scandal over his overspending on government spending at the company's internal Guangdong office.⁸

Like many other players in the global oil market, Sinopec has often been criticized by environmental organizations, which has led the company to develop a strategy for "green" development and reduction of carbohydrate emissions.⁹

CONCLUSION

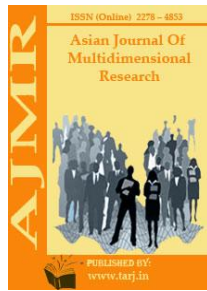
Finally, because many of the regions in which the company operates are characterized by their political instability, these circumstances pose a threat to both its sustainable operation and the lives of the company's employees. For example, in 2007, a group of Samoan militants attacked a drilling rig in Sinopec in the Ogaden Desert in eastern Ethiopia, killing nine Chinese workers, kidnapping seven and later releasing them.¹⁰

Thus, China's Sinopec, by its very nature, is a leading company with high potential for Chinese energy in foreign economic expansion, is a guarantee of China's economic security and at the same time helps solve important geopolitical challenges called "light" power by China. Sinopec has steadily strengthened its international position, becoming the fifth largest multinational corporation in the world in the Fortune Global 500 ranking in 2012, 24th in the UNCTAD ranking in 2014, and 2nd in the TOP-10 of the Fortune Global 500 ranking in 2015 (446.8 billion in revenue).), Ranked 2nd among the top 100 companies in China from 2011 to 2019.

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**“MANAGEMENT PERSPECTIVES FROM SRI GURU GRANTH SAHIB:
LESSONS FOR MANAGERS AND LEADERS”**

Dr Ramandeep*

*Assistant Professor
Department of Commerce,
Government College for Women,
Sirsa (Haryana), INDIA
Email id: ramandeepjrf@gmail.com

ABSTRACT

The business world today has become so materialistic and spiritless that many companies and even nations are operating without any conscience. Profit maximization has become the ultimate goal for the industrialists, excluding the all other valuable considerations. There is a treasure of management wisdom in Sri Guru Granth Sahib which is enough to inspire and stimulate the business managers and leaders. Management through Sri Guru Granth Sahib makes the leader a role model for the organization and follows management attributes like loyalty, helping others, sharing the profits and takes care of people without any manipulations. The teachings of Sri Guru Granth Sahib encourage fraternity, integration, cooperation and equality in the society.

KEYWORDS: *Sri Guru Granth Sahib, Management, Leadership, Motivation.*

INTRODUCTION

Management has become an essential part of daily life, whether it is office, factory and government. It is an art of achieving desired goals and objectives by optimum utilization of resources. The management exercise is found in every human pursuit, be it school, business, union and government. Men, material, money and machinery constitute human and physical resources and management is concerned with planning, organizing, coordinating, directing and controlling of these resources at the organizational level. Management today is not just concerned with direction or getting work done by people, rather manager has to create and sustain the performers by continuously inspiring them. The entire managerial efforts are concerned with effective and efficient use of human and physical resources so that values are delivered to the society at large. The business leaders today are deeply entrenched in greediness and doing a lot of harm to the environment. In this current scenario, the management needs to be linked with principles of religion for the sustainable development of all the stakeholders.

Management scholars today are delving into religion, psychology, spirituality and many other schools of thoughts in the field of management of organization. Sri Guru Granth Sahib is the eternal guru of the Sikhs for seeking guidance on all aspects of life. The present paper endeavors to articulate and systematize the instinctive understanding of Sri Guru Granth Sahib, to direct the corporate managers in their managerial decisions.

Evolution of Management Thought

The evolution of management can be categorized into different parts which are as follows

- Classical management Era (1880-1930),
- Neo classical Management Era (1930-1950),
- Modern Management era (1950- till today)

The classical management era includes scientific, administrative and bureaucracy management. The neo classical management era consists of human relational and behavioral approach. The modern management era includes social system, decision theory, quantitative, and contingency approach respectively.

Management in Present Time:

Companies are doing the right things for their business but not necessarily doing things in the right way. Indian companies are in conflict in its functioning and are giving less importance to the issues of productivity, motivation, morals, values, principles and ethics. The rationale behind this condition is too much reliance on western model of management. The western management philosophy is based on materialism and perpetual desire for profits, irrespective of the quality of the means adopted for achieving the goal.

In the present age, corporate sector wants to use workers as machines. The corporate world today is deeply rooted in materialism and it has done more harm than the good to all the interested stakeholders. The industrialists have become wealthier, employees have been constricted to hired worker and the customer has been positioned at the piny of the money-oriented executive.

Sri Guru Granth Sahib and Management:

The Sikh religion is based on rational and scientific philosophy. Sri Guru Granth Sahib is a living guru of Sikhs encompasses 1430 pages (*Anks*). It is a sacred scripture of the Sikhs and it includes the Hymns of thirty six gurus out of which six were Sikh Gurus, fifteen were Hindu and Muslim sages, four were followers of the Gurus and eleven were poets, therefore giving it a pluralist view and unanimous appeal. Shri Guru Gobind Singh (The tenth Sikh Guru) announced *Sri Guru Granth Sahib* as the living guru of the Sikhs and all the Sikhs are ordered to accept the Granth as the living guru.

Management needs to be connected with principles of religion for the sustainable development of the all stakeholders. The companies are appreciating the need to combine religious wisdom with work because it covers issues such as morals, values, ethics, principles, leadership, human rights and managers and larders can learn lessons from it.

The teachings of Sri Guru Granth Sahib can change the management perspective and life-style of the managers and leaders and can demolish the walls of ignorance, ego and dishonesty. The practices which are being followed by Sikhs are Kirat Karo (honest earning), Vand Ke Shako (share profit), Dasvandh (donating 10 percent of earning for social cause) and helping poor and

extending physical help in social and religious activities. The teachings of Sri Guru Granth Sahib can lead to a happy and contented life.

Management Insights from Sri Guru Granth Sahib:

Management is known as the process of bringing people together to achieve goals and objectives by optimal use of the available resources. It is also known as the art of getting things done through and with people. The managerial wisdom focuses on the effective and efficient use of human resources by providing them satisfaction and serving the values to the society at large. Today, management concepts and practices are needed to be intertwined with religion. Sri Guru Granth Sahib is the Eternal Guru of the Sikhs for seeking direction on all aspects of life. There is a treasure of management wisdom in Sri Guru Granth Sahib which is enough to inspire and stimulate the business managers and leaders.

Sri Guru Granth Sahib and Leadership:

The leader is called a visionary leader if he is conscious of his vision. A leader should be innovative and confident in his thought to bring novelty to the organizational system to stay tuned with the changing business environment.

The Guru guides,

“Tat samadrsee santahu ko-ee kot manDhaahee”

—One who sees the essence of reality with impartial vision, O Saints, is very rare—one among millions! (SGGS, p-51).

Sri Guru Granth Sahib highlights the virtues of fairness, truthfulness, fearlessness, humbleness, courage and contentment which are treated as the cherished ideals of leadership.

Sri Guru Granth Sahib and Integrity:

The integrity is regarded as the honesty, truthfulness and consistency of character in one's actions. All the scandals of the business world are due to dishonest and untruthful actions of the business managers. Sri Guru Granth Sahib considers the false dealings in the business equivalent to eating dead bodies.

According to Sri Guru Granth Sahib

“Sachahu orai sabh ko upar sach aachaar”.

Truth is higher than everything; but higher still is truthful living! (SGGS, p-62).

Sri Guru Granth Sahib teaches us that one should earn one's living in a honest way, helping the needy and keeping God always in mind.

Sri Guru Granth Sahib and Compassion:

The leader should be compassionate in his behavior. The kindness and love for others not only make the life but worth living also.

According to Sri Guru Granth Sahib,

“Satgur purakh da-i-aal hai jis no samat sabh ko-ay.

Ayk darisat kar daykh-daa man bhaavnee tay sidh ho-ay”;

Motivation is all about our internal desire to achieve something that is valuable to us and this desire makes us take action. Sri Guru Granth Sahib enlightens the human beings as to how to conduct and live in this world; it gives the way of life.

Sri Guru Granth Sahib says,

“Taripat aghaa-ay rahay Jan tayray satgur kee-aa dilaasaa jee-o”

Your humble servants remain satisfied and fulfilled and the true *Guru* blesses them with encouragement and comfort (SGGS, p-105).
“Har bhagvantaā taa Jan kharaa sukhaalaa”

The Lord is wealthy and prosperous, so His humble servant should feel totally secure (SGGS, p-131).

Along with material needs, the need of knowledge, power and need of affiliation are some of the other needs which need to be satisfied by the employers. The people with higher needs get motivated and satisfied when these needs are fulfilled.

Sri Guru Granth Sahib says,

“Jih satgur simranth riDh siDh nav niDh paavai”

—Those who meditate in remembrance of the True Guru, are blessed with wealth and prosperity, supernatural spiritual powers and the nine treasures (SGGS, p1405).

The employees who recite the name of the God get motivated and work sincerely for the organization which results into prosperity and success.

Sri Guru Granth Sahib and Social Responsibility:

Social responsibility implies organization should follow business ethics and work not only for profit maximization but also for the interests of other stakeholders and the society as a whole.

In Sikhism, a Sikh is expected to contribute at least 10% of his income, called Dasvandh, to the poor and needy people or for a social cause.

The Guru says,

“Naanak agai so milai je khatay ghaalay day-ay”

—O Nanak, in the world hereafter, that alone is received, which one gives to the needy from his own earnings and labor (SGGS, p-472).

The management should take the social responsibility in the best interests of their environment and society by helping poor people, donating money to charitable educational and healthcare institutions, doing plantation, controlling pollution and increasing the employment. Socially responsible companies adopt policies that promote welfare of society and environment.

CONCLUSION

The teachings of Sri Guru Granth Sahib can direct the business leaders to manage their business in a manner which is beneficial to all the employees on individual level and to the society at large. Along with fulfilling the objective of profit maximization, the companies can also engage itself in fulfilling the social responsibility. The teachings of Sri Guru Granth Sahib encourage fraternity, integration, cooperation and equality in the society. Sri Guru Granth Sahib seeks the wellbeing of all human beings of the earth. The present paper studies only a few important

aspects of management in the light of Sri Guru Granth Sahib and a lot of wisdom from Sri Guru Granth Sahib yet to be discovered. The business cannot survive in isolation and needs to have a strong relationship with society. Management through the teachings of Sri Guru Granth Sahib can make the leader a role model for the organization and directs him to conduct the business affairs with others in an ethical and candid manner.

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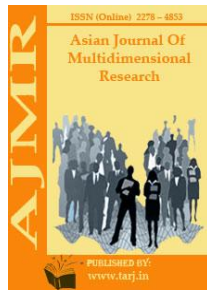
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FEATURES AND PECULARITIES OF AVIATION PSYCHOLOGY

Yeliseyev N.A*

*Head of Educational Department,
The Higher Military Aviation School the Republic of UZBEKISTAN

ABSTRACT

This article addresses the various physiological factors that can degrade the mental and physical performance of pilots, and countermeasures to those factors. In a normal environment (i.e., at sea level and without any unusual forces acting upon it), the human body does a good job of acquiring and processing information. However, when placed in an environment for which it is not adapted (e.g., an airplane at altitude, with g-forces exerting loads in unusual directions), that functioning may be degraded. Functioning may also be affected by drugs such as caffeine or marijuana, nutritional state, and fatigue arising from lack of sleep, among other factors. The acquisition and processing of information may also be affected by visual illusions arising from the characteristics of the environment and by somatic illusions arising from the organs of balance. All of these are important considerations, but our discussion is about what is arguably the most important aspect of flying from a physiological standpoint – as pilot goes up, the pressure and oxygen go down.

KEYWORDS: *Hypoxia, Fatigue, Hypemic Hypoxia, Aviation Psychology, Pilot'S Condition, Aviation Safety, Emotional Symptom, Physiological Standpoint, Physical Performance of Pilots, Psychological Factor.*

INTRODUCTION

Physiology is defined as “a branch of biology that deals with the functions and activities of life or of living matter ... and of the physical and chemical phenomena involved”¹. Aviation physiology is the study of human systems’ integrated functions and the processes by which they maintain the body functions – how the body and mind work in the flying environment. Physiologically, the most important concern of a pilot is hypoxia. At the surface of the Earth, the atmosphere contains about 78% nitrogen and 21% oxygen. These ratios remain fairly constant up to about 100 km due to turbulent mixing. However, the pressure decreases steadily with an increase in altitude. As the partial pressure of oxygen decreases, your body has increasing difficulty in absorbing sufficient oxygen to maintain body functions. This is reflected in the

concept of *time of useful consciousness*. This describes the maximum time that a pilot has to make and carry out decisions at a given altitude without supplemental oxygen. As altitude increases above 10,000 feet, the symptoms of hypoxia increase in severity and the time of useful consciousness decreases. While we usually associate hypoxia with increased altitude, it can actually occur at any altitude. For example, even at or near sea level a pilot can experience hypoxia due to poor blood circulation, anemia, recent blood donation, or exposure to toxic substances, such as the cyanide released from a fire. Hypoxia can even occur on the ground. In one incident reported to the Aviation Safety Reporting System (ASRS), an air carrier crew became hypoxic during preflight because 10,000 lb of dry ice was loaded on the aircraft, but ventilation was poor because the Auxiliary Power Unit (APU) was inoperative while air start carts were being used for ventilation. As the dry ice evaporated, the gaseous carbon dioxide displaced the air in the aircraft, resulting in a lack of available oxygen. Fortunately, the crew noticed the symptoms of hypoxia and subsequently evacuated the aircraft without lasting ill effects. There are numerous such reports in the ASRS of pilots becoming partially disabled due to the effects of hypoxia. Often, these come from pilots who had been flying for some time at or just above 10,000 feet without supplemental oxygen. In addition, there are many reports from pilots who experienced hypoxia due to a malfunction or misuse of a supplemental oxygen system. Clearly, hypoxia is a serious matter and something each pilot must bear in mind, and be alert for the symptoms listed below:

- Cyanosis (blue fingernails and lips)
- Headache
- Decreased reaction time
- Impaired judgment
- Euphoria Visual impairment
- Drowsiness
- Lightheaded or dizzy sensation
- Numbness

We usually think of hypoxia as being caused by flight at high altitude. However, there are four types of hypoxia, and all of these individually and collectively may affect pilots and degrade their performance. This is the hypoxia typically associated with high altitude flight. Your body cannot absorb adequate oxygen because there is not enough pressure to force the oxygen molecules through membranes of the respiratory system.

There are four stages of hypoxic hypoxia:

- Indifferent;
- Compensatory;
- Disturbance;
- Critical.

Since the majority of pilots, at least in the early stages of their aviation careers, tend to operate at fairly low altitudes, the indifferent and compensatory stages of hypoxic hypoxia may be of greatest concern. Recall the example taken earlier of the ASRS report of a pilot who had been

cruising for some time at 12,500 feet and subsequently found himself experiencing symptoms of hypoxia. Most pilots are aware of the need for supplemental oxygen at higher altitudes, but may decide that they can manage without it at altitudes around or just over 10,000 feet. While these operations may be legal, pilots should be aware of the wide variation in individual responses to flight at these altitudes.

Hypemic hypoxia occurs when the oxygen-carrying capacity of the blood is reduced. Sufficient oxygen at adequate pressure is present in the inhaled air, but the oxygen molecules do not bind to the hemoglobin in the blood. Carbon monoxide poisoning is a common cause of this condition. Carbon monoxide binds to the blood hemoglobin about 200 times more easily than oxygen and prevents the oxygen molecules from attaching. Exhaust fumes from the engine or from a cabin heater are the most common source of carbon monoxide in the cabin. Carbon monoxide is colorless and odorless, and thus is difficult to detect. Fortunately, inexpensive carbon monoxide detectors are now readily available that will alert the pilot to the presence of this dangerous gas. Hypemic hypoxia may also be caused by blood donation. In that case there are simply not enough red blood cells present in the blood stream to pick up the oxygen. The effects of blood donation may last several weeks.

Like happiness, fatigue can be a hard thing to define. The dictionary (Merriam-Webster Ninth New Collegiate Dictionary 1985) defines fatigue as “weariness or exhaustion from labor, exertion, or stress”. The FAA defines fatigue as “... a condition characterized by increased discomfort with lessened capacity for work, reduced efficiency of accomplishment, loss of power or capacity to respond to stimulation, and is usually accompanied by a feeling of weariness and tiredness”¹. Many people associate fatigue with sleepiness, but fatigue is not just being sleepy. This distinction is made by Shen et al. who noted that “Sleepiness and fatigue are two interrelated, but distinct phenomena”². Arguably, pilots seldom become fatigued in the same way as a person who has just completed a 10-km race. However, other aviation workers, such as aviation maintenance technicians, might well experience fatigue with no sleepiness component after completing some physically-demanding tasks. Nevertheless, fatigue and sleepiness are often used interchangeably, and the research literature, at least that dealing with aviation, has largely ignored aspects of fatigue other than sleepiness. Therefore, while the distinction between fatigue and sleepiness is recognized, the discussion in this section is limited to sleepiness.

In 1990, the National Transportation Safety Board³ (NTSB) added “Reduce Accidents and Incidents Caused by Human Fatigue” to its list of most wanted safety recommendations. This arose out of a series of accidents in which fatigue (usually, lack of sufficient, timely sleep) was indicated as a factor in the crash. This was typified by the crash of a cargo DC-8 on approach to Guantanamo Bay, Cuba on August 18, 1993. The NTSB found that the probable cause of the accident was, “The impaired judgement, decision-making, and flying abilities of the captain and flight crew due to the effects of fatigue”⁴. In this case, the flight crew had experienced a disruption of circadian rhythms and sleep loss, after being on duty for 18 hours and having flown 9 hours at the time of the accident. Following that recommendation, many air carriers implemented policies to improve the rest of their crew. However, pilot fatigue continues to appear as a factor in accidents as illustrated by the fatal Colgan Air crash in Buffalo, New York on February 12, 2009. In that case, the NTSB concluded that “... the pilots’ performance was likely impaired because of fatigue”⁵. This crash also highlighted the importance of considering not just the time a pilot is on duty, but also what they are doing in the hours leading up to a flight. In the case of the Colgan crash, pilots’ commuting practices may have contributed

significantly to fatigue. For a detailed examination of the pilot commuting issue, see the report by the National Research Council. In a review of commercial pilot work practices, Goode⁵ found that 20% of human factors accidents involved pilots who had been on duty for 10 or more hours. However, only 10% of pilot duty hours occurred during that time. Similarly, 5% of human factors accidents involved pilots who had been on duty for 13 or more hours, although only 1% of pilot duty hours occur during that time. These results clearly demonstrate a pattern of increased probability of an accident as the duty time for pilot's increases, and are consistent with the extensive literature on the effects of fatigue (operationalized as lack of sleep) and human performance. There is a massive research literature on the effects of fatigue/sleepiness on human performance, including many studies involving aircrew. Reviews of this literature have been produced by Battelle Memorial Institute⁶, Lim and Dinges⁷, Caldwell ET al.⁸ (2012), and Avers and Johnson⁹. The review by Caldwell et al. is particularly interesting in that it addresses differences between chronic and acute sleep deprivation. Chronic sleep deprivation refers to the accumulative effects of restricting sleep to less than 8 hours daily over an extended period. Acute sleep deprivation is typically characterized by a single period of enforced wakefulness (perhaps 24–36 hours). Both types of deprivation will result in performance decrements in cognitive performance. In the case of acute sleep deprivation, decrements become noticeable fairly rapidly, while in the case of chronic sleep deprivation, they accumulate more slowly. Recovery from each of these situations reflects, to some degree, the duration of sleep deprivation. For individuals suffering from acute sleep deprivation, recovery is fairly rapid, while recovery from chronic sleep debt occurs at a much slower rate. Some researchers¹⁰ (Belenky et al. 2003) have reported that recovery did not occur on numerous cognitive measures even after three nights of 8 hours of sleep. Fatigue caused by chronic or acute loss of sleep can produce a variety of physical, mental, and emotional symptoms. Slowed reaction time (as shown Figure 1) is one physical symptom, as well as lack of energy, repeated yawning, heavy eyelids, headaches, and microsleeps. Mental symptoms include difficulty concentrating on tasks, lapses in attention, failure to anticipate events, forgetfulness, and poor decision-making.

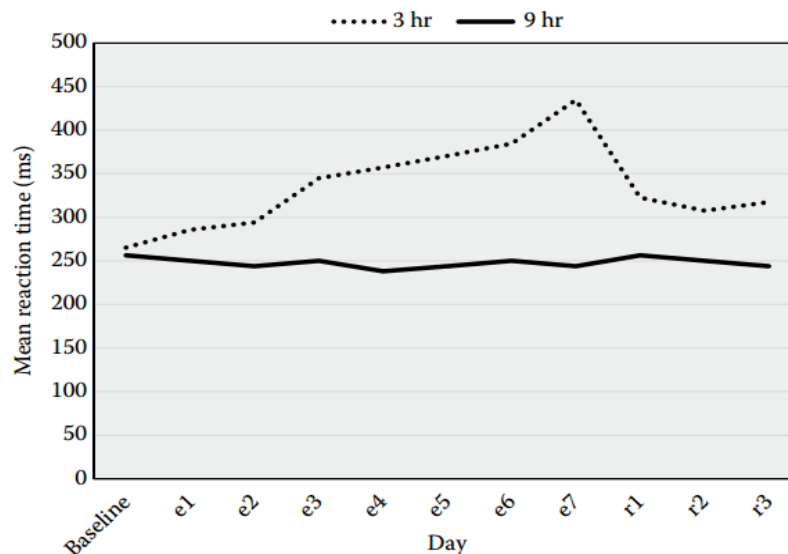


Figure 1. Mean reaction time for psychomotor vigilance task. (Belenky G. et al. Patterns of performance degradation and restoration during sleep restriction and subsequent recovery: A sleep dose-response study. *Journal of Sleep Research*. 2003. 12: 1–12. Copyright Wiley – VCH Verlag GmbH & Co. KGaA. Reproduced with permission.)

The emotional symptoms associated with fatigue are irritability, withdrawal, lack of motivation, and heightened emotional sensitivity¹¹. In addition to the traditional, narrative reviews of the fatigue literature, several researchers¹² have used meta-analysis to mathematically summarize the results from large numbers of individual studies. These studies have found strong relationships between sleep deprivation and performance degradation. For example, Pilcher and Huffcutt cumulated the results from 19 individual research studies and found that overall there was a substantial (–1.37 standard deviations) effect of sleep deprivation on performance. They also demonstrated that the largest negative effects were on subjects' mood, and that partial sleep deprivation (defined as fewer than 5 hours of sleep in a 24-hour period for 1 or more days) produced more decrements in performance than either short-term or long-term sleep deprivation. These results are illustrated in Figure 2.

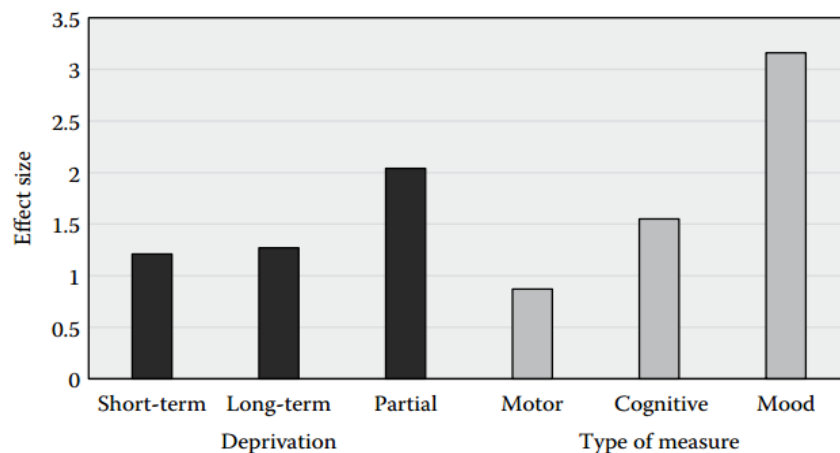


Figure 2. Meta-analysis of sleep deprivation studies. (Based on Pilcher J.J. and Huffcutt A.I. 1996. *Sleep* 19: 318-26.)

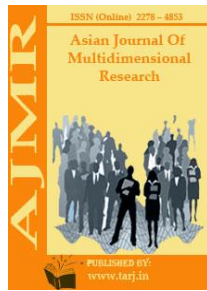
An interesting study by Lamond and Dawson¹³ demonstrated the relationship between sleep loss and blood alcohol content. The issues associated with alcohol usage and performance will be considered later, but for now consider the degree to which loss of sleep produces the same level as performance decrement as a blood alcohol level that would render drivers and pilots ineligible to operate. In the United States, the legal limit for commercial drivers in all 50 states is 0.04% BAC (blood alcohol concentration). That is also the level established as the limit for pilots. This rather clearly demonstrates that moderate levels of fatigue can produce levels of performance decrement equivalent to or greater than those associated with unacceptable levels of intoxication. So, if you would not fly if you were drunk, why would you fly if you were tired? The effects of sleep deprivation on the performance of pilots have been demonstrated in several studies. Figure 3.5 shows the effects of sleep deprivation on the cognitive performance of a group of U.S. Air Force pilots in a simulated flight¹⁴. Clearly, their vigilance suffered as they became more sleep deprived—particularly in the period around 2:00 to 4:00 a.m. Later, in the discussion of circadian rhythms, the importance of this particular period will be explored in more detail. For

now, just consider the fourfold increase in lapses that occurred between 4:00 p.m. on the first day and 4:00 p.m. on the second day. In an operational context, an increase in missed signals of this magnitude might well have serious consequences. In the latter study, flight performance deficits began in the early morning hours and peaked at 9:30 a.m. before waning by noon on the second day. Interestingly, instrument scanning was remarkably unaffected by the pilots' sleep deprivation, suggesting that the pilots were redirecting resources toward the most important tasks. Overall, the magnitude of the flight performance deterioration was not large, even at its peak (only about 15%). This was less than that in some previous studies, which have shown deficits of as much as 45%¹⁵ (Caldwell et al. 2003). Caldwell et al. evaluated the effects of 37 hours of continuous wakefulness on U.S. Air Force F-117 pilots. Arguably, the dramatic effects associated with exposure to more extreme levels of hypoxia, intoxication, or drug use are less worrisome than the more subtle effects found with low levels of exposure. Few pilots, air traffic controllers, or maintenance technicians would report for duty while intoxicated from alcohol, severely fatigued, or high from smoking marijuana. However, as shown earlier, detectable effects on behavior, particularly when under stress, may be found long after the obvious effects of sleep loss, alcohol, marijuana, or other substances are gone. You may feel fine, and you may even be legal, but you may not be capable of performing at your full potential. Usually, that will not matter. You will do your job, and nothing extraordinary will happen to require that you perform at your optimal level. On those occasions, even the subtle effects of drugs taken long ago or sleep missed over several nights may contribute to your failure to meet the demands of the situation. Of course, some physiological effects are out of your direct control. The somatogyral, somatogravic, and visual illusions are driven by the nature of your physiological systems and the external stimuli acting upon your balance and visual senses. Countering these effects is largely a matter of awareness, training, and a firm belief that the instruments are correct, regardless of what you feel. With a little care, your body will last a long time and will effectively acquire and process the information needed to fly, repair, or direct aircraft. But, if you take away the nutrients it needs or poison it with licit or illicit substances, do not be surprised if it stops working up to specifications.

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CHARACTERISTICS OF FOREIGN ECONOMIC ACTIVITY AND TOURISM DEVELOPMENT IN INDIA

Zulaykho Abdukhalimovna Kodirova*; Gulchehra Salihovna Isamukhamedova**;
Shakhnoza Erkinovna Abdullaeva***

*PhD in Economics,
Tashkent State University of Oriental Studies,
Tashkent, UZBEKISTAN

**Scientific Researcher,
Tashkent State University of Oriental Studies,
Tashkent, UZBEKISTAN

Scientific Researcher,
Tashkent State University of Oriental Studies,
Tashkent, UZBEKISTAN

ABSTRACT

The article discusses the specifics of the socio-economic model of India and current trends in its development, analysis and regulation of foreign trade, the importance of increasing export potential in modernizing the economy, optimizing the import structure, and attracting foreign investment and foreign investment policy. In addition, the stages and directions of development of the tourism industry in India, as well as the existing free economic zones are considered as an important form of foreign economic activity of the country. At the end of the article, opinions and comments on the topic are given and a clear conclusion is made.

KEYWORDS: *Foreign Economic Relations, Foreign Trade, Export, Import, Investment, Investment Policy, Tourism, International Tourism, World Market, Free Economic Zones.*

INTRODUCTION

Assessing India's economic potential today, its large-scale production and service potential has led it to become the world's third-largest economy. In other words, it ranks second only to the United States and China in terms of GDP purchasing power. It can be said that India can be a worthy competitor of China. There are many differences and similarities in the development models of these countries.

The Republic of India is a country in South Asia, the 8th largest country in the world by area and the 2nd largest by population. India, one of the oldest countries in the world, has been under the rule of British colonizers for 200 years. In 1947, India gained independence with dominion status, and in 1950 was declared a republic. According to the World Bank, the country's population is currently 1.38 billion. (2018). Of these, the population over the age of 24 is 572 million. This shows that India has the youngest population in the world. According to an economic study conducted in 2014, the working-age population in the country accounted for 58% of the total population. By 2021, this figure is expected to be more than 64% and will have the largest share of the population aged 20-35.¹

At the same time, we can see that some aspects of the concept of the Delhi Talks are consistent with the Beijing Talks. Both models aim to introduce a number of liberal aspects of the Washington Dialogue, taking into account national specifics, using a certain method, timing and pace of economic change. The main features of both models are: the nature of economic liberalization, reforms, taking into account structural changes in solving social problems, and the important role of the state in the control and development of key sectors of the economy, etc.

The fact that India has a large raw material base also determines its superiority in production. India is rich in raw materials such as coal, iron ore and cotton. India has the 5th largest coal reserves in the world, the 4th largest producer of 5% of the world's iron ore, and the largest cotton producer in the world. The availability of large volumes of raw materials reduces the cost of the product and, as a result, the product produced at a lower price provides a competitive advantage. The domestic reserves of raw materials in the country can provide the manufacturing sector without global consumption.²

It is known that no country in the world can develop without establishing foreign economic relations and conducting trade relations with other countries. In particular, India is one of the fastest growing countries in the world economy. In the context of globalization, one of the important directions of India's economic development program is the strategy of integrating the country into the world economy, including the international trade system.³

The importance of foreign economic relations in the development of India's national economy is determined by the need to attract additional material and financial resources to the country, as well as to export some of its products to the world market. During the scientific and technological revolution, its importance will increase, as the foreign economic relations industry will become one of the most important channels for the import of scientific and technological achievements from developed countries.

MAIN PART

In India, foreign economic relations are used primarily to overcome economic backwardness and strengthen the country's economic independence. It should be noted that the Indian bourgeoisie, especially its monopolistic circles, are trying to subordinate foreign economic relations to the interests of increasing their incomes. The importance of foreign economic relations for the national economy of India determines the active participation of the state in their development and increasing the effectiveness of its impact on domestic economic processes. For these purposes, the state uses a wide range of tools, from indirect methods of regulating the activities of private capital in the world market, to direct participation in the implementation of foreign economic programs.

After gaining independence and embarking on its reforms, the Indian state has improved its institutional and legislative system in line with the multilateral trading system. The basic institutional system of trade policy has changed several times. Legislation has also been revised and several new laws have been passed. According to the Foreign Trade Law, the main objectives of India's trade policy are to accelerate its opening to the outside world, promote foreign trade, and support economic development.

As a result of the reforms implemented, India has achieved significant positive results in its foreign trade. In this regard, this country is gaining ground not only in Asia but also in the world. India has entered the new millennium with strong and solid financial prospects. Stability in the Asian market can guarantee the reliability of the Indian economy. In the development of foreign economic relations, exports have grown rapidly. This was primarily due to the liberalization of trade, lower tariffs and the openness of foreign investment in the information technology sector, which is the most active export sector.

India's national model of development is based on chasing development, under which the government sought to bring in technological knowledge from outside, and at the same time, to prevent the negative consequences for international industry from international competitors. However, unlike Korea and China, India has not been able to make effective use of the world's knowledge reserves.

The effectiveness of public policies aimed at the sharing of advanced technologies has been so low that exports have not yet become a leading force in the Indian economy. In 2016-2019, the two leading sectors of the country's economy delivered only 12-13% of total exports. However, for Korea and China, the figures were 64% and 35%, respectively. All elements of India's foreign economic relations have changed qualitatively in line with the ongoing reforms. First of all, this has led to a reduction in the volume of foreign private investment in the country, and this has led to a worsening of the conditions for attracting investment to the country, which is especially important. At the same time, India's relationship with foreign private capital remains too close. This will be achieved through the introduction of new technologies in the country, the development of its exports, the provision of benefits to foreign companies that are committed to improving the development of energy resources.⁴

Notarial barriers are actively used: registration of participants in foreign economic activity, availability of licenses in foreign trade operations, high demand for product labeling, requirements for technical quality standards of products that meet Indian quality standards, control over imports of agricultural products (phytosanitary certification, in the country) various permits for the import of plants, fruits, animal products).

The importance of foreign economic relations for the national economy of India requires the active participation of the state in the development of these relations and increase the effectiveness of its influence on domestic economic processes. To this end, the state uses a wide range of tools, which are reflected in the world market, from indirect methods of regulating the activities of private capital to direct participation in the implementation of foreign economic programs.

The development of India's foreign trade is largely determined by the general state of world trade and the conjuncture of the world market.

The role of the state in the development of India's foreign trade is also of great importance. As in export trade, the influence of the state on the development of imports is manifested, firstly, through the state regulatory system and, secondly, through the direct participation of state foreign trade companies and public sector enterprises in import operations.

State regulation of imports includes direct state control over currency regulation, licensing, tariff policy, setting import quotas, import of certain goods. Each of these areas of regulatory activity of the state is especially important in the context of complexity in trade and balance of payments. According to him, the regulation of foreign trade by the state is primarily aimed at ensuring foreign exchange savings. This goal is achieved by providing import preferences to state exporters. In this case, the regulation of imports is inextricably linked with the regulation of exports. At the same time, other measures by the state to regulate imports are aimed at stimulating exports and saving foreign exchange. In particular, the issuance of licenses for the import of equipment, raw materials, company and spare parts for the creation of additional capacity to those operating for export.

Another important goal of government regulation of imports is to protect national industry. It is here that protectionism has an anti-imperialist connotation and serves the national interest. The protection of the national economy is achieved by the following:

- High payment of duties;
- Import quotas;
- Direct ban on products and goods that are indigenous to domestically produced products and goods. The strong role of the state in imports is determined by the large scale of activities of state foreign trade organizations and the granting of exclusive rights to import certain goods. Foreign trade organizations are not the only government agencies involved in import operations. A large volume of imports of machinery and equipment is carried out by state-owned industrial enterprises, which are direct consumers of these goods.

The nationalization of imports has an impact on the nature of India's participation in world trade, in the international division of labor. As the total share of the public sector in India's imports increases, the rationalization of import trade resulting from national interests will be achieved, and the negative impact of monopolies on the country's economic development will be limited.

Many Indian state-owned companies entered the world market due to orders from African and Asian countries, which are major consumers of Indian machinery, metalworking, metallurgy and chemical products, and later expanded their exports. It was a product of the industries in which state-owned industrial companies operated.

The growing role of the state in export operations due to such growth in the volume of exports of state foreign trade corporations and industrial enterprises has had a positive impact on the effectiveness of India's export programs.

First, with the active participation of the public sector, there was an increase in the share of finished products in the country's exports, as well as goods with high currency efficiency (machinery, chemical products).

Second, the state now has strong tools that can change the geographical direction of exports based on priorities. In other words, the strengthening of the role of the state in export activities

has had a strong positive impact on the strengthening of India's position in the world market, increasing the competitiveness of goods and increasing export earnings.

A very large and steadily growing market, a thriving infrastructure, a complex financial sector, a rapidly adaptive regulatory system, state stability and a well-thought-out economic strategy have made India an attractive country for investment. The business environment in India allows for high economic growth rates.

Investment projects will be reviewed by the Foreign Investment Movement Council on a number of social issues, such as infrastructure development, increasing the country's export potential, increasing employment (especially in rural areas), and the introduction of advanced technologies.

The Foreign Investment Movement Council will issue its decision in 4-6 weeks, and obtaining the consent of the remaining relevant ministries, state khokimiyats and local khokimiyats may take several months. In addition to a number of bureaucratic hurdles, the implementation of investment projects is protracted due to the imperfect legal framework, underdeveloped infrastructure in many states, insufficient skills of local staff, high tax rates and a number of shortcomings in financial and banking services.

The Indian government is allowed to invest in sectors of the Indian economy, such as energy, infrastructure projects, machinery, information technology, pharmaceuticals, oil and gas and petrochemical complexes, as well as manufacturing and a number of other export-oriented industries. In India, the activities of enterprises with foreign investment are regulated by the state on the basis of strict requirements. This, in turn, contributes to the moderate number of such enterprises and direct investments in the country's economy.

India is currently the largest consumer of credit in the global loan capital market among developing countries. At the same time, this country is becoming more and more a creditor compared to countries with lower levels of economic development. This, of course, is directly related to the acceleration of growth rates of national productive forces and the strengthening of market relations in the national economy. At the same time, capital outflows also reflect the contradictions in India's economic development, which is explained by the diversity of the economy and the relative narrowness of the domestic market.

RESULTS AND DISCUSSIONS

The main direction of Indian policy is to establish effective control over the activities of foreign capital in order to reduce the impact of foreign capital on the Indian economy. The law restricts the activities of foreign private investors to certain sectors of the economy, and the law also limits the amount of income that can go abroad. However, this does not mean that the role of foreign capital has changed radically, its impact on the process of economic development of India is insignificant.

There seems to be a contradiction between the state's policy of controlling private foreign investment and their absolute growth factor in the Indian economy. However, in addition to measures to curb foreign private capital, the Indian government continues to make efforts to use foreign capital investments to boost the pace of national economic development.

Growth rates in enterprises that use foreign experience and technology through a system of transactions are much higher than in the country as a whole. This form of interaction with foreign capital is often used by firms to obtain unilateral income that in fact has nothing to do

with India's national interests, while emphasizing the specific benefits that India receives from these transactions.

In addition, foreign companies include in the agreements various types of prohibitions and restrictions, primarily related to the export of new enterprise products. In a number of cases, despite existing restrictions on areas of activity, foreign capital is able to sign cooperation agreements in areas that are not of primary importance to the national economy, but in well-paying areas.

Thus, the main task of the Indian state in the field of foreign economic activity related to attracting foreign capital to the country's economy is to use foreign financial instruments more effectively for the benefit of the national economy.

India ranks third in the services sector in terms of tourism, with 7.8% of the working population or 36 million people are employed and 6.2% of GDP is produced. The total volume of the Indian tourism market is 128 billion dollars. In 2018, the share of tourism in the country's exports amounted to 22.9 billion dollars, an increase of 13%.⁵

It should be noted that in implementing foreign economic policy, the Government of India pays special attention to special (free) economic zones (EEZ), which are created to develop the production and export of high-quality products, attract advanced technologies, increase employment.

The first such area in India was established in 1965 in Kandla (Gujarat). Initially, only the government of the country was the founder of the regions.

New integration associations have begun to take shape in the world economy. These alliances were formed against the threat of the world being unipolar or bipolar. This trend has made any country a member of two or more international associations, and they are becoming an active participant in the world economy. India is undoubtedly one of the fastest growing countries in the world.

CONCLUSION

Participation in international and regional economic organizations, integration and preferential agreements plays an important role in India's foreign economic activity. The most well-known of them are: the Arab Bank for Economic Development in Africa, the United Nations, the World Trade Organization, the Asian Development Bank, the Bank for International Settlements, the G20, ASEAN, the technical and economic cooperation of the Gulf states. (BIMSTTEK) BRICS, FAO, G20, FATF, IAEA, Bank for International Development and Reconstruction, International Monetary Fund, ICAO, UNESCO, IMO, Interpol, Association of Regional Cooperation of South Asia (SAARC), India is masterfully using the opportunities of the World Trade Organization (WTO) in resolving trade disputes and protecting its foreign economic interests. The main discussions will be with the United States and the European Union. In the South Asian region, India is actively cooperating with all neighboring countries, and here it is strengthening its position as a regional leader.

Rational regulation of foreign economic activity is an important component of the state strategy in economic development. This, in turn, requires the application of an optimal level of protectionism and free trade policy, taking into account the specific internal and external conditions of the country, protecting it from negative changes in the world market, maintaining and expanding its position in it.

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CATALYTIC CHANGES OF C₁-C₄ ALKANES IN (MoO₃)_x·(ZnO)_y·(ZrO₂)_z·(B₂O₃)_k CATALYST

I. M. Nurmanova* ; N. I. Fayzullayev**

^{1,2}Samarkand State University, Samarkand, UZBEKISTAN

ABSTRACT

Catalytic conversion of hydrocarbons C₁-C₄ in a steel flow reactor with an internal diameter of 12 mm, at normal atmospheric pressure, in the range of 550-650 °C, the volumetric velocity of reagent mixture 175-350 ml/min and contact time 0.5- Studied under conditions of 17.0 sec. The acidic properties of the catalysts were investigated by thermogrammed desorption of ammonia. The structure and position of the active centres of the catalyst were determined by electron microscopy, and the surface area was determined by the BET method. From aromatic hydrocarbons C₁-C₄, aromatic hydrocarbons are formed in the (MoO₃)_x·(ZnO)_y·(ZrO₂)_z·(B₂O₃)_k catalyst with maximum yield.

KEYWORDS: C₁-C₄-Alkanes, Aromatic Hydrocarbons, Reaction Yield, Selectivity, Flow Reactor, BET Equation, Specific Surface Area.

INTRODUCTION

C₁-C₄-alkanes are a component of natural, petroleum gases and waste gases from oil refineries, from which aromatic hydrocarbons, olefins and high molecular weight alkanes can be obtained in the presence of multifunctional catalysts [1-4].

Today, however, most light hydrocarbons are used as process fuels or burned in flares. Currently, scientists around the world are conducting extensive research to make efficient use of light hydrocarbons. In the processing of light hydrocarbons and the production of substances important for the economy, the yield of products depends mainly on their nature, composition, method of preparation of catalysts and the conditions of the reaction [4-8].

The catalytic conversion of light alkanes to aromatic hydrocarbons and olefins is currently being intensively developed in the presence of zeolite catalysts. The catalytic conversion of light alkanes to aromatic hydrocarbons and olefins is currently developing rapidly [9-14].

In this study, the results of the conversion of C₁-C₄-alkanes to aromatic hydrocarbons are given in zeolite-containing catalysts. Based on the above, the work aims to create a catalyst for the

aromatization reaction of C₁-C₄-alkanes and to study the physicochemical and textural characteristics of the catalyst and evaluate the laws of the process.

EXPERIMENTAL PART

Catalytic conversion of hydrocarbons C₁-C₄ in a steel flow reactor with an internal diameter of 12 mm, at normal atmospheric pressure, in the range of 550-650 °C, the volumetric velocity of the reagent mixture at 175-350 ml/min and contact time 0.5 -17.0 sec. The contact time was calculated according to the formula $\tau = V/F$. In this case, the empty volume of the V-reactor, ie the difference between the volume of the reactor and the volume of the catalyst; the Volumetric velocity of the F-hydrocarbon mixture flow. The value of the heterogeneous factor S/V, (S-catalyst surface, V-free volume) ranged from 8.5 to $6.6 \cdot 10^5 \text{cm}^{-1}$. The calculation of the velocity constant is based on the relationship between the first-order reaction equation $\ln[1/(1 - \alpha)]$ (where α is the conversion rate) and the contact time τ , and the activation parameters are based on the values of velocity constants at 5 temperatures. Calculated using the least-squares method. The reaction products were analysed by gas chromatography on a thermal conductivity detector LXM-80. Separation of H₂, O₂, N₂, CH₄, CO was carried out in a column filled with zeolite 5 A with a length of 2 m and an inner diameter of 3 mm. Separation temperature-isothermal, temperature -70 °C, carrier gas-argon, gas flow rate -20 ml/min. Separation of C₂-hydrocarbons and CO₂ was carried out in a column 2 m long and 3 mm in diameter, filled with Porapak Q. Temperature regime of separation-isothermal, temperature-80 °C, carrier gas helium, gas flow rate 20 ml/min. Separation of C₃-C₄ hydrocarbons was carried out in a 4 m long, 3 mm in diameter column of aluminium oxide treated with Vaseline oil. Separation temperature mode - isothermal, temperature - 20 °C, carrier gas-helium, gas flow rate 20 ml/min. The composition of the starting and forming substances was analyzed on a chromatograph LXM-8 (column size 3.5-0.5 cm) in a column filled with fluorinated Al₂O₃[15-17].

The acidic properties of the catalysts were investigated by thermogrammed desorption of ammonia. The structure and position of the active centres of the catalyst were determined by electron microscopy, and the surface area was determined by the BET method.

RESULTS AND DISCUSSION

The results of the BET method and chromatographic determination of the specific surface area of the catalysts and their composition are presented in Table 1 below.

TABLE 1. THE COMPOSITION OF CATALYSTS AND THEIR SPECIFIC SURFACE AREA

Catalyst	Catalyst composition	Method of preparation	S _{col} , m ² /g
1	(MoO ₃) _x ·(ZnO) _y ·(ZrO ₂) _z	Swallowing together	258
2	(MoO ₃) _x ·(ZnO) _y ·(B ₂ O ₃) _z	Swallowing together	280
3	(MoO ₃) _x ·(B ₂ O ₃) _y ·(ZrO ₂) _z	Swallowing together	323
4	(MoO ₃) _x ·(ZnO) _y ·(ZrO ₂) _z ·(B ₂ O ₃) _k	Swallowing together	257

From the data given in Table 2, it can be seen that in the products of processing of C₁-C₄-hydrocarbons in catalysts containing (MoO₃)_x·(ZnO)_y·(ZrO₂)_z are aromatic hydrocarbons - benzene, toluene, ethylbenzene, xylenes (in the liquid phase.) and the gas phase contains C₁-C₄-hydrocarbons as well as hydrogen.

TABLE 2. RESULTS OF CATALYTIC TRANSFORMATION OF C₁-C₄ALKANES IN CATALYSTS (MOO₃)_X·(ZNO)_Y·(ZRO₂)_Z

T, °C	550	600	650
Conversion,%	71,2	78,5	82,4
Liquid phase yield,%	18,5	24,8	30,2
Selectivity with respect to ArU,%	26	31,6	36,7
Liquid phase (catalyst) composition, mass.%			
Benzene	31,2	45,8	48,7
Toluene	37,6	34,3	32,6
Ethylbenzene	18,4	11,5	11,8
Xylenes	12,8	8,4	6,9

Table 2 shows that as the temperature rises from 550 to 650 °C, the conversion of C₁-C₄-alkanes and selectivity for aromatic hydrocarbons increases. Under similar conditions, the amount of benzene in the liquid phase increases. The amount of toluene and xylenes decreases. Table 3 shows the results of the catalytic conversion of C₁-C₄-alkanes in the catalyst (MoO₃)_x·(ZnO)_y·(B₂O₃)_z.

TABLE 3. RESULTS OF CATALYTIC TRANSFORMATION OF C₁-C₄-ALKANES IN THE CATALYST (MOO₃)_X·(ZNO)_Y·(B₂O₃)_Z

T, °C	550	600	650
Conversion,%	68,5	73,8	79,7
Liquid phase yield,%	14,3	19,5	25,6
Selectivity with respect to ArU,%	20,9	26,4	32,1
Liquid phase (catalyst) composition, mass.%			
Benzene	31,2	37,9	41,2
Toluene	42,8	47,8	48,3
Ethylbenzene	19,4	10,1	8,2
Xylenes	6,8	4,2	2,3

Table 3 also shows similar data for the above catalyst. Table 4 shows the results of the catalytic conversion of C₁-C₄-alkanes in the catalyst (MoO₃)_x·(ZnO)_y·(ZrO₂)_z·(B₂O₃)_k.

TABLE 4. RESULTS OF CATALYTIC TRANSFORMATION OF C₁-C₄-ALKANES IN THE CATALYST (MOO₃)_x·(ZNO)_y·(ZRO₂)_z

T, °C	550	600	650
Conversion,%	75,2	79,8	86,7
Liquid phase yield,%	36,4	43,5	49,9
Selectivity with respect to ArU,%	48,4	54,5	57,6
Liquid phase (catalyst) composition, mass.°%			
Benzene	18,1	32,7	40,4
Toluene	46,2	40,8	44,7
Ethylbenzene	20,7	14,4	8,6
Xylenes	15	12,1	6,3

As can be seen from Table 4, the yield and selectivity of aromatic hydrocarbons are 36.4% and 48.4%, respectively, at 550 °C. As the temperature rises from 550 to 650 °C, the yield and selectivity of aromatic hydrocarbons increase from 36.4% to 49.9% and the selectivity from 48.4% to 57.6%, respectively. The chemical composition of the samples obtained during the catalytic conversion of C₁-C₄-hydrocarbons to aromatic hydrocarbons shows that in this process, catalysts with (MoO₃)_x·(ZnO)_y·(ZrO₂)_z and (MoO₃)_x·(ZnO)_y·(ZrO₂)_z·(B₂O₃)_k have high catalytic activity. The analysis of the obtained results shows that under the same conditions (at 650 °C) the maximum yield of aromatic hydrocarbons (MoO₃)_x·(ZnO)_y·(ZrO₂)_z·(B₂O₃)_k is observed in the catalyst. Maximum conversion (75.2%) was observed in №4 catalyst during the first 4 hours of catalyst operation. When the catalyst was operated for 5 hours, a sharp decrease in C₁-C₄-hydrocarbon conversion was observed, after which the decrease in conversion rate slowed down.

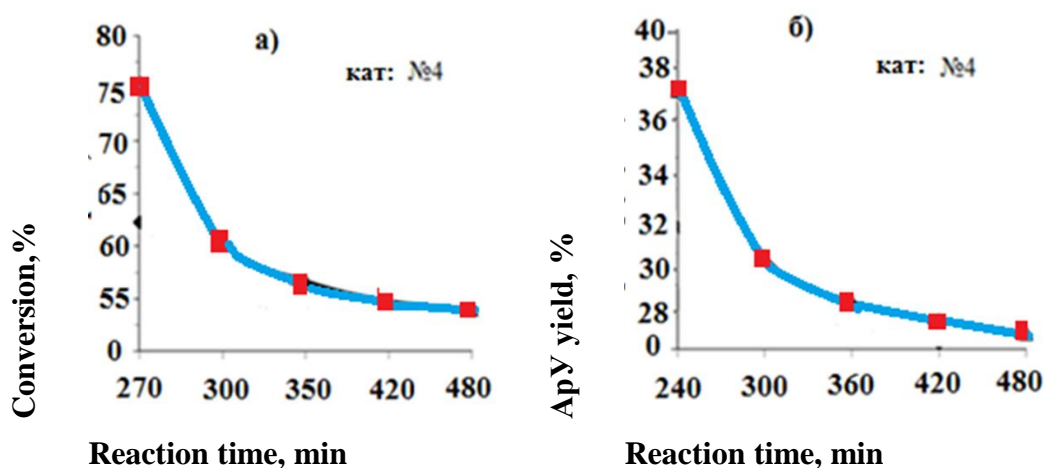


Figure 1. Conversion of C₁-C₄-hydrocarbons in catalyst №4 and the dependence of the yield of aromatic hydrocarbons on the reaction time

The yield of aromatic hydrocarbons in №4 catalyst (36.4%) was observed during the first 4 hours of catalyst operation. After 5 hours of operation of the catalyst, the yield of aromatic

hydrocarbons decreased. The degree of conversion of C₁-C₄-alkanes in the presence of these catalysts and the composition of the formed compounds depends on the process temperature and the nature of the components in the catalytic system. The composition of the products formed during the processing of C₁-C₄-alkanes in the above-mentioned catalysts shows that the catalysts are multifunctional, and several reactions are observed in the created zeolite-containing catalysts: cracking, dehydrogenation, isomerization, dehydrogenation, alkylation.

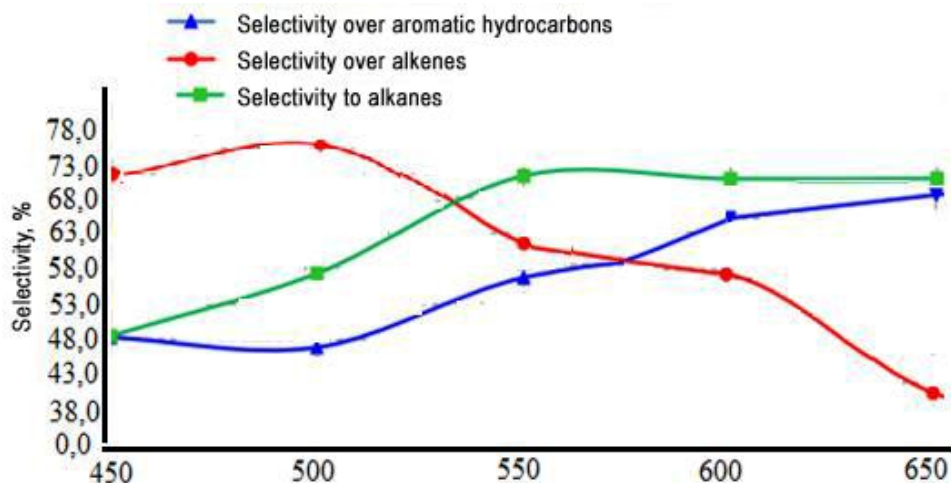


Figure 2. Temperature dependence of product selectivity

The distribution of pores in the catalyst №4 by specific surface area and size was determined by low-temperature desorption of nitrogen. The calculation of the reference surface area was performed by the BET method. According to the data, №4 catalyst has a highly developed surface. The surface value is 257 m²/g at №4 catalyst and 258 m²/g at catalyst №1. The distribution of pores by size in the catalysts being tested is given in Table 5 below.

TABLE 5. DISTRIBUTION OF PORES BY SIZE IN CATALYSTS №4 AND №1

№4 catalyst			№1 catalyst		
R _{por} , Å	V _{por} * 10 ³ , cm ³ /g	S _{por} , m ² /g	R _{por} , Å	V _{por} * 10 ³ , cm ³ /g	S _{por} , m ² /g
Micropores *					
16,0	0,8	11,1	15,9	0,9	12,0
17,2	1,7	20,4	17,2	1,9	23,6
18,6	2,6	30,0	18,6	2,7	32,0
20,1	3,3	37,7	20,1	3,6	40,3
Mesopores *					
21,8	4,3	46,3	21,7	4,4	48,1
23,8	5,1	53,3	23,7	5,2	54,8
26,0	6,0	60,5	26,0	6,3	63,4
28,5	7,1	67,9	28,6	7,4	70,6
31,6	8,3	75,2	31,8	8,4	77,4

35,2	9,6	83,1	35,4	9,5	83,5
40,0	11,2	91,0	40,0	11,0	91,1
45,9	12,7	97,5	46,0	125	97,4
53,4	14,6	104,4	53,7	14,2	103,7
64,2	16,6	110,9	64,5	16,5	111,0
81,2	19,4	117,7	81,1	19,3	117,7
110,2	22,5	123,3	108,9	22,6	123,9
175,3,0	26,8	128,1	166,7	26,6	128,7
Makropores *					
544,4	33,9	130,7	511,4	34,4	131,7

* Micro-pores (<20Å) meso-pores (20-500Å) according to the classification of pores by size proposed by MM Dubin); macropores (> 500Å).

Comparison of the results of the IR spectral analysis of the structure shows that the presence of a wide absorption band at 914 cm^{-1} with a maximum confirms the formation of metal carbides at the expense of the structure in reactors whose walls are treated with different salts. This can be proved by the absence (absence) of the above bands and the presence of irregularly structured carbon in the area of $1350\text{-}1500\text{ cm}^{-1}$ as a result of the examination of the IR spectra of coke in reactors whose walls are coated with salts of various metals. The resulting amorphous coke can be lost by burning at $550\text{-}600\text{ }^\circ\text{C}$ in the air stream from the reactor surface for 2-3 hours. The electron-microscopic analysis also confirmed IR spectroscopy data on the formation of coke as a result of catalytic changes of $\text{C}_1\text{-C}_4$ -alkanes.

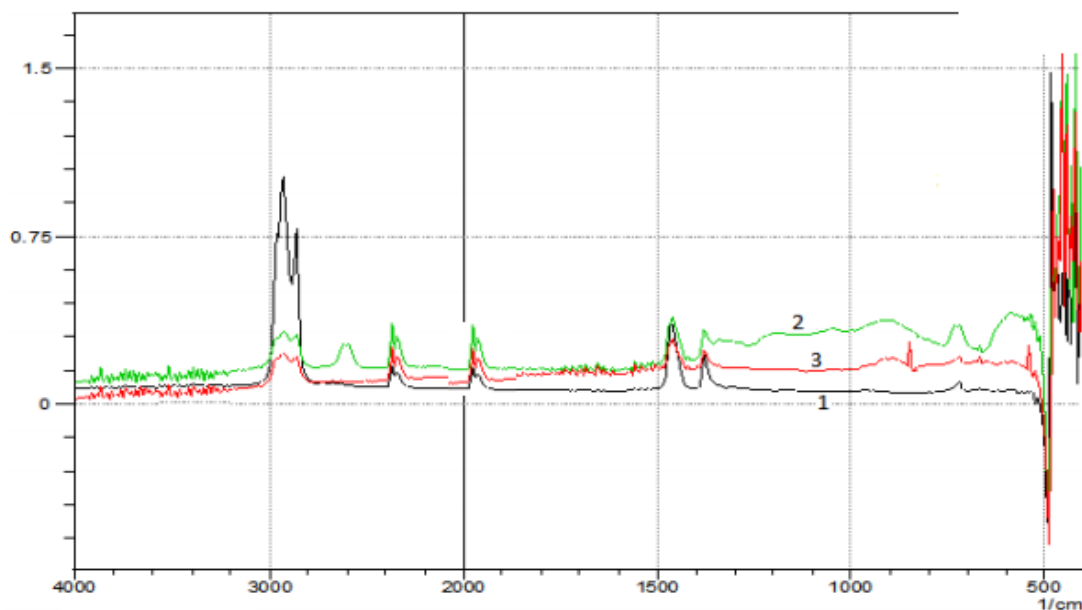


Figure 3. The IR of the structure formed in reactors treated with (1), $(\text{MoO}_3)_x \cdot (\text{ZnO})_y \cdot (\text{ZrO}_2)_z$ (2), $(\text{MoO}_3)_x \cdot (\text{ZnO})_y \cdot (\text{B}_2\text{O}_3)_z$ (3) -spectrums

Catalytic changes of C₁-C₄-hydrocarbons in the gas phase are governed by the first-order reaction equation:

$$W = k_{\text{эф}} \cdot C_{\text{yB}}$$

Where $k_{\text{эф}}$ - the effective constant of the reaction rate, the concentration of C_{yB} -alkane. Ideal for reactions leading to extraction reactors

$$k_{\text{эф}} = \frac{1}{\tau} \ln \frac{1}{1 - \alpha}, C^{-1}$$

Where α is the rate of change of the initial hydrocarbon; τ - contact time. Using the least-squares method, the activation energy can be determined experimentally. For this the Arrhenius equation used a logarithmic form:

$$\ln k_{\text{эф}} = \ln A - \frac{E_a^{\text{эф}}}{RT}$$

Where A is the exponential front multiplier; $E_a^{\text{эф}}$ - effective activation energy; The R-universal gas constant is 8,314 J_{mol} · K.

The parameters A and $\ln k_{\text{эф}}$ were found based on the $\ln k_{\text{эф}}$ and 1/T correlations in the coordinates. The calculation of the velocity constant was performed according to the first-order reaction equation, which is confirmed by the straight-line relationship in the coordinates between $\ln 1/1 - \alpha$ and the contact time (τ). The activation energy of the catalytic conversion reaction of propane was found on the basis of the Arrhenius equation for the relationship between $\ln k$ and 1/T.

TABLE 6. KINETIC AND ACTIVATION PARAMETERS OF CATALYTIC CHANGE REACTIONS OF PROPANE-BUTANE FRACTION

Reactor processing	Углеводород	T, °C	$k \cdot 10^2, c^{-1}$	$E_a,$ кДж/моль	$\ln k_0$
No processing	CH ₄	710 800	0,16 3,35	258,5±12,9	25,5±1,3
	C ₂ H ₄	710 800	0,66 2,88	144,8±11,3	12,6±1,3
	C ₃ H ₈	710 800	3,47 13,77	132,7±10,6	13,0±1,2
(MoO ₃) _x ·(ZnO) _y ·(ZrO ₂) _z	CH ₄	710 800	0,33 1,96	171,8±9,9	15,3±1,2
	C ₂ H ₄	710 800	0,23 1,39	173,7±10,0	15,2±1,2
	C ₃ H ₈	710 800	1,05 8,47	173,6±8,7	16,8±0,8
(MoO ₃) _x ·(ZnO) _y ·(B ₂ O ₃) _z	CH ₄	710 800	0,6 3,35	160,0±8,0	14,5±0,7
	C ₂ H ₄	710 800	0,62 2,94	148,6±8,1	13,1±0,9
	C ₃ H ₈	710	5,2	96,4±4,8	8,7±0,4

		800	12,5		
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TABLE 7. C₁-C₄- KINETIC AND ACTIVATION PARAMETERS OF PROPANE DECOMPOSITION IN THE CATALYTIC TRANSFORMATION OF HYDROCARBONS

(V = 50 ml/min; τ = 1.34 c; d = 0.6 cm; S/V = 5.6 · 10⁵ cm⁻¹)

Реакторга ишлов бериш	Углеводород	T, °C	k · 10 ² , c ⁻¹	Ea, кДж/моль	ln k ₀
Ишловсиз	CH ₄	710	3,7	150,2±3,6	15,1±0,4
		800	17,9		
	C ₂ H ₄	710	5,1	124,4±7,7	12,2±0,8
		800	18,3		
	C ₃ H ₈	710	6,1	234,1±8,5	25,8±1,0
		800	64,7		
(MoO ₃) _x ·(ZnO) _y ·(ZrO ₂) _z	CH ₄	710	7,2	102,5±5,4	9,9±0,6
		800	21,4		
	C ₂ H ₄	710	5,1	121,5±5,7	11,9±0,7
		800	18,9		
	C ₃ H ₈	710	15,4	165,6±10,4	18,4±1,2
		800	90,1		
(MoO ₃) _x ·(ZnO) _y ·(B ₂ O ₃) _z	CH ₄	710	5,5	118,2±6,6	11,4±0,8
		800	15,9		
	C ₂ H ₄	710	2,9	145,3±3,7	14,3±0,4
		800	13,5		
	C ₃ H ₈	710	7,9	199,0±4,9	21,8±0,6
		800	64,2		

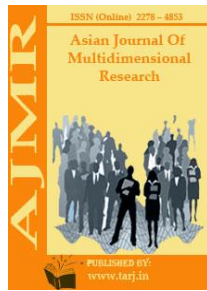
CONCLUSION

Thus, the catalytic transformation of C₁-C₄ hydrocarbons is carried out in a steel flow reactor with an internal diameter of 12 mm, at normal atmospheric pressure in the range of 550-650 °C, the volumetric velocity of reagent mixture 175-350 ml/min and contact time 0, Studied under conditions of 5–17.0 sec. The acidic properties of the catalysts were investigated by thermogrammed desorption of ammonia. The structure and position of the active centres of the catalyst were determined by electron microscopy, and the surface area was determined by the BET method. The maximum yield of aromatic hydrocarbons from C₁-C₄ hydrocarbons (MoO₃)_x·(ZnO)_y·(ZrO₂)_z·(B₂O₃)_k was observed in the catalyst.

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SIMULATION OF WEAR OF THE PISTON RING OF THE INTERNAL COMBUSTION ENGINE

Ismoil E. Tursunaliyev*; Ikrom E. Ergashev*; Dilshodbek M. Tursunov*;
Ahror A. Abdurahimov*

*Fergana Polytechnic Institute, Fergana, UZBEKISTAN

Email id: i.tursunaliyev@ferpi.uz

ABSTRACT

The features of modelling the wear of the upper piston compression ring of an internal combustion engine, taking into account its displacements and vibrations in the piston groove of the internal combustion engine, are considered, and a method is proposed for the estimated calculation of the piston ring for its resource.

KEYWORDS: *Internal combustion engine, piston rings; wear; resource.*

INTRODUCTION

The service life of a complex technical system is the calendar duration of operation of this system until destruction or another limiting state. The limiting state of the technical system can be established according to changes in parameters, according to safety conditions, according to economic indicators, according to obsolescence, if necessary, the first overhaul, etc.

Failure of parts and working bodies of machines under normal operating conditions occur due to various types of physical wear: fatigue fractures, creep of materials, mechanical wear, corrosion, erosion, cavitation, ageing of the material, etc...

MATERIALS AND METHODS

The current state of the theory of working processes of machines, the availability of extensive experimental technology for determining the working loads and a high level of development of the applied theory of elasticity with a relatively good knowledge of the physical and mechanical properties of materials make it possible to ensure sufficient strength of machine parts with the best guarantee against their breakdowns under normal operating conditions. Therefore, the most common reason for the failure of parts and working bodies of machines is not a breakdown but wear and damage to the working surfaces [1], [2], [3].

That is why predicting the amount of wear (in fact, the resource) of piston rings at the design stage is an interesting area in engineering. It is difficult to overestimate the knowledge of the

value of the ring wear value (as a part that limits the overhaul interval) in the specified engine life. It has long been known that it is much easier, safer, faster and, more importantly, cheaper to solve any problems at the design stage than to find flaws at the testing stage or, even worse, at the stage of product operation. No less important is the problem of the reliability of the results in modelling the wear of an object. There are two ways to improve the reliability of results in wear modelling.

Based on the formula $U = I \cdot L$, where U is the linear wear value [m], I – dimensionless wear value, L is the friction path [m], it is easy to see that by reducing the errors in the formula components, the desired result can be achieved. In this article, a method was considered for increasing the accuracy in determining the path travelled by the ring - L , while not forgetting about the correct modelling of the change in the value of dimensionless wear - I .

When compiling a mathematical model of the movement of the ring, a hypothesis arose, according to which the ring, in addition to the main movement associated with the movement of the piston, has relative displacements in the piston groove, and the direction may not coincide with the direction of movement of the piston. Therefore, the amount of movement can deviate in one direction or another. The above mathematical models describe the movement of the ring and the process of its wear.

Mathematical model of ring displacement in a piston groove: To clarify the physical essence of the theory of ring vibration, consider the scheme of an annular seal (pic. 1), consisting of an upper piston ring and a second ring, assuming that the hydraulic resistance to the gas flow of the second ring is equivalent to the resistance of the lower set (of the second and lower rings). The pressure of the gas approaching the upper ring is denoted by p_1 , the gas pressure in the cavity under the first ring is p_2 , and the gas pressure in the crankcase is p_3 .

We believe that the gas along the labyrinth seal passes practically without temperature change - isothermal. In this case, the gas temperature is equal to the arithmetic mean of the temperatures of the piston and cylinder. It is assumed that a decrease in pressure from p_1 to p_2 corresponds to the subcritical velocity of the isothermal flow, i.e.

$$\frac{p_1}{p_2} < \sqrt{e} = 1,65. \quad (1)$$

With the shown position of the ring in the groove, when it does not lie on any of its sides, there is an area for the passage of gas along with the upper slot of width Δ_u , which we will take equal to

$$f_1 = \pi D \Delta_u, \quad (2)$$

in turn, the area of the gas passage under the ring

$$f_2 = \pi D \Delta_u \quad (3)$$

The area of the gas passage, equivalent in resistance to the area of all underlying rings, will be denoted by f_3 , and the total end gap between the ring and the groove - by $\theta = \Delta_u + \Delta_d$. To simplify writing and generalization, we will introduce the following notation:

$$\varphi = \frac{f_3}{\pi D^2}; \quad \eta = \frac{b}{D}; \quad (4)$$

$$\psi = \frac{\Delta_u}{D}; \quad \beta = \frac{\psi}{4\varphi} = \frac{f_3}{f_1}. \tag{5}$$

The purpose of the study is to establish the pattern of movement of the ring in the groove in the direction of the piston axis X , which we will direct downward (pic. 2). The following forces act along with this force: gas pressure P_{gas} , ring inertia P_j , friction P_f , gravity P_{gr} . Using the d'Alembert principle, we write:

$$\psi = \frac{\Delta_u}{D}; \quad \beta = \frac{\psi}{4\varphi} = \frac{f_3}{f_1}. \tag{6}$$

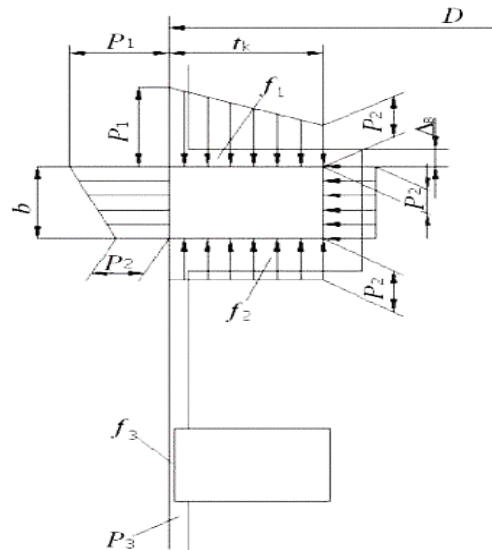


Fig. 1. Scheme for calculating the vibration of the piston ring.

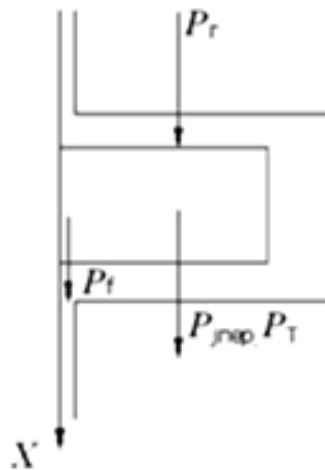


Fig. 2. Forces acting on the ring along the axis of the piston.

To determine the resulting force of gas pressure P_{gas} , we find the pressure difference between the top and bottom of the ring. The amount of gas flowing iso-thermally with a subcritical velocity through a slot with an area f_1 ,

$$dG_{1-2} = \mu_1 f_1 \sqrt{\left(\frac{2g}{RT}\right)} \ln \frac{p_1}{p_2} p_2 dt \quad (7)$$

The amount of gas flowing out isothermally with a critical speed through a slot with an area of f_3 ,

$$dG_{2-3} = 0,606 \mu_2 f_3 \sqrt{\frac{g}{RT}} p_2 dt, \quad (8)$$

where μ_1, μ_2 are the expiration coefficients, which, for simplicity, are assumed to be equal;

g – acceleration of free fall;

R – gas constant;

T – the absolute temperature of the gas;

t – the time.

With a steady gas movement, which we accept under the assumption, for example, that when considering the instantaneous position of the piston and the ring $dG_{1-2} = dG_{2-3}$. Therefore, using these parameters and finding from the equation p_2 , we obtain

$$p_2 = \frac{p_1}{e^{0,184} \beta^2} \quad (9)$$

Using expression (9) for relation (1), we obtain the following conditions after transformations:

$$\beta = \frac{f_3}{f_1} = \frac{\varphi}{4\psi} < 1,65; \quad (10)$$

$$\frac{p_1}{p_3} > 1,65 e^{0,184\beta}.$$

Taking into account inequality (10), the condition turns into a simpler one:

$$\frac{p_1}{p_3} > 2,24. \quad (11)$$

This is true for engines for which the pressure in the crankcase is $p_3 = 0.1$ MPa and $p_1 > 2.24$ MPa. The distribution of pressures on the upper and lower end surfaces of the ring will be taken according to the law of a trapezoid and, accordingly, a rectangle (see Fig. 1). In this case, the resulting gas pressure acts on the ring:

$$\Delta p = 0,5 (p_1 + p_2) - p_2 = (p_1 - p_2) \quad (12)$$

Substituting in this expression the value of p_2 from (9), we get:

$$\Delta p = 0,5 p_1 \left[1 - \frac{1}{e^{0,184 \left(\frac{f_3}{\pi D u} \right)^2}} \right]. \quad (13)$$

Resultant gas pressure force:

$$P_{gas} = \Delta p \pi (D - t). \quad (14)$$

The force of inertia of the ring $P_j = -mj$, where the mass of the ring

$$m \approx \pi (D - t) t b p \quad (15)$$

The acceleration of the ring can be represented as the sum of the portable acceleration amounts (piston) j_{por} and the relative acceleration j_{rel} .

Portable acceleration

$$j_{por} = \omega^2 R_{cr} (\cos \alpha + \lambda \cos 2\alpha) \quad (16)$$

where $\omega = \frac{\pi n}{30}$ – is the angular velocity of rotation of the crankshaft;

n – crankshaft rotational speed;

R_{cr} – radius of the crank;

λ – the ratio of the radius of the crank to the length of the connecting rod;

α – the angle of rotation of the crankshaft from the position of t.d.c.

Relative acceleration of the ring when moving concerning the piston:

$$j_{rel} = \frac{d^2 x_{rel}}{dt^2} \quad (17)$$

Accordingly, to the above

$$P_j = P_{j_{por}} - m \frac{d^2 x_{rel}}{dt^2}, \quad (18)$$

Where is

$$P_{j_{por}} = -m \omega^2 R_{cr} (\cos \alpha + \lambda \cos 2\alpha). \quad (19)$$

Substituting the force P_j from expression (18) into (6), we obtain

$$m \frac{d^2 x_{rel}}{dt^2} = P_{j_{por}} + P_{gas} + P_f + P_{gr} \quad (20)$$

Equation (20) determines the relative movement of the ring in the piston groove.

It should be noted that during the periods of the cycle before and after the top dead centre when the transfer force of inertia $P_{j_{por}}$ is negatory (directed upwards) and exceeds the resultant forces of gas pressure P_{gas} , friction and gravity P_{gr} , the right-hand side of the last equality is negatory and, therefore, the relative acceleration $\frac{d^2 x_{rel}}{dt^2}$. In this case, the ring can move towards the upper surface of the groove, as a result of which the width Δ_u of the slot and the area f_1 for the passage of gas will decrease. This will reduce the gas pressure p_2 under the ring (see formulas (4), (5))

and (9)), and the resultant gas pressure P_{gas} (see formulas (13) and (14)) will increase and, together with other forces can exceed the negative force of inertia $P_{j_{por}}$. As a result, the ring can move down from the upper surface of the groove. A larger amount of gas will again enter the widened slit of size Δ_u . Then the gas pressure will rise so much that the large force of inertia $P_{j_{por}}$ will again move the ring up.

Thus, under the action of forces, the ring moves within the value of θ , sometimes in the opposite direction to the movement of the piston until it collides with one or another surface of the groove [2].

MATHEMATICAL MODEL OF RING WEAR

The main difficulty in understanding the physical laws during the wear of materials, as noted above, is that during friction, the surface layers of rubbing parts are subject to strong environmental influences with the simultaneous mechanical action of the mating surface. It is known that the physical and mechanical properties of the materials of the surface layers differ from the properties of the bulk of the material, its internal structures. Taking into account physicochemical and mechanical factors when considering the destruction of the surface layers of bodies during friction gives reason to consider the wear process as cumulative, i.e., summarizing the effect of individual factors upon repeated multiple loading of friction links until the wear particle is separated.

This type of wear occurs in a wide variety of friction units. Including those closed from the ingress of abrasive particles, not subject to severe corrosion and protected from micro-seizure. Only the cumulative fracture mechanism explains the wear of the surface of a harder material of a friction pair by a softer one, for example, a rubber or plastic seal wears out a steel surface.

Experiments show that, in addition to hardness and load, an important role in material wear is played by the elastic properties of the material, operating mode (speed, temperature), external conditions (lubrication, environment) and design features of the friction unit.

When the microroughness slides along the counter body, a frontal ridge of deformable material appears in front of it, which is under the influence of compressive stresses. Behind microroughness due to friction forces, the material is stretched. Thus, each element of the deformable material undergoes alternating deformation. Multiple repeated deformations lead to physical and chemical changes in the surface layer and the accumulation of damage in it, leading to the separation of wear particles.

Model experiments on the sliding of a spherical indenter under a load along an annular trajectory show that with an increase in the number of passes (cycles of action on a material element), the material is destroyed not immediately, but after several passes. After the separation of wear particles and the deepening of the indenter, no noticeable changes occur on the friction surface again for a certain number of cycles.

The given tension σ_g at the contact, at which the separation of wear particles occurs, is proportional to the specific friction force τ :

$$\sigma_g = k\tau = kf_m p_r \quad (21)$$

where k – is the coefficient characterizing the tension state at the contact, depends on the nature of the material (for brittle materials $k = 5$, for highly elastic materials $k = 3$);

f_m – molecular component of the coefficient of friction;

p_r – is the actual pressure.

Wear is usually characterized by a linear wear rate:

$$I = \frac{V_\Sigma}{A_a L} = \frac{U}{L} \quad (22)$$

where V_Σ is the volume of material removed in the friction path L ;

A_a – nominal contact area;

L – the path of friction.

Taking into account that only the actual area of contact is involved in friction, we introduce the concept of specific wear by analogy with expression (22):

$$i_h = \frac{V_D}{A_r d} \quad (23)$$

where d is the average diameter of the touch contact spot;

V_D is the volume of material removed from the actual contact area A_r during a shift along with the path d (as a result of one act of interaction of irregularities).

Dividing expression (22) by (23) and transforming, we get:

$$I = i_h \frac{A_r}{A_a} = i_h \frac{p_a}{p_r} \quad (24)$$

where, p_a is the nominal pressure.

One act of interaction of irregularities accounts for the following thickness of the worn layer:

$$V_D = \frac{U_v}{n} \quad (25)$$

Where n is the number of cycles leading to the separation of the volume U_v .

Let us consider the contact of an absolutely rigid body with a rough surface of an elastically deformable wearable counter body moving along a smooth surface. A rough surface is modelled by a set of spherical segments of the same radius, located in height so that the distribution of the material in the surface layer of the model and the real surface is described by the same reference curve (characterizes the distribution of material along with the height of the rough layer). We neglect the mutual influence of irregularities since in most real mates the contact density is low and can be approximately estimated from the ratio of the nominal pressure to the hardness of the softer material of the friction pair.

We assume as a first approximation that only the volume of penetrated irregularities is involved in deformation:

$$U_v = \int_0^h A_r dh = A_c R_{max} \int_0^\varepsilon b \varepsilon^\nu d\varepsilon = \frac{A_r h}{\nu + 1} \quad (26)$$

where R_{max} is the highest height of the profile irregularities;

ν , b – parameters of the support curve;

ε – relative convergence.

Substituting formula (26) into (23) taking into account (25), we get:

$$i_h = \frac{h}{(\nu + 1) d n} \quad (27)$$

Applied to irregularities modelled by spherical segments, for a single irregularity:

$$d \approx \sqrt{2rh}.$$

Then:

$$\frac{h}{d} \approx 0,7 \sqrt{\frac{h}{r}}.$$

For multiple contacts, we get the basic equation for calculating wear:

$$I = K_1 \alpha \sqrt{\frac{h p_a}{r p_r n}}. \quad (28)$$

where K_1 – multiplier determined by the geometric configuration and the height of the unit irregularities on the surfaces of solids (usually $K_1 \approx 0,2$);

$\alpha = A_a/A_r$ – overlap coefficient.

As a result of transformations, the basic equation (28) for an elastic contact will take the form:

$$I = K_1 \alpha 2^{\frac{1}{v}} p_a p_c^{\frac{1}{2v}} p_r^{t_y-1} \Delta^{\frac{1}{2v}} \Delta^{\frac{1}{2}} \left(\frac{k f_m}{\sigma_0} \right)^{t_y}, \quad (29)$$

where Δ – roughness;

t_y – friction fatigue curve parameter;

p_c – contour pressure at the contact.

Let's write down the formula for calculating the wear rate of the treated surfaces. Actual contact pressure:

$$p_r \approx 0,7 \sqrt{\frac{\tau_0 E}{\alpha_g}} \quad (30)$$

where τ_0 – frictional parameter;

E – modulus of elasticity of the material;

α_g – coefficient of hysteresis losses.

Roughness, established after the completion of the surface running-in process, is estimated by the formula:

$$\Delta \approx \frac{15 \tau_0^{\frac{5}{4}}}{E^{\frac{3}{4}} p^{\frac{1}{2}}} \quad (31)$$

Substituting formulas (30), (31) into (29), we finally obtain:

$$I = K_2 15^{\frac{2t_y}{5}} \alpha K_{tv} p E^{\frac{t_y-1}{2}} \tau_0^{\frac{1}{2}} \Delta^{\frac{1}{2}} \left(\frac{k f_m}{\sigma_0} \right)^{t_y}, \quad (32)$$

where K_{tv} – a correction factor that takes into account the number of cycles before the separation of the wear particle.

Formula (32) is a design equation for ring wear [3].

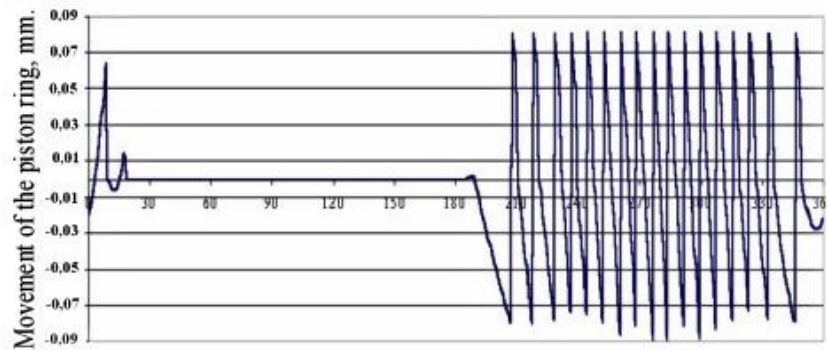
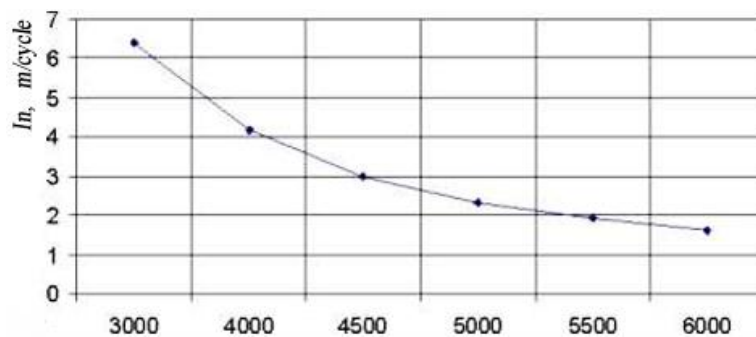


Fig. 3. Movement of the piston ring in the piston groove along the angle of rotation of the engine crankshaft.



$\times 10^{-8}$ Load -100 %

n, rev/min

Fig. 4. Dependence of the cyclic wear of the piston ring on the high-speed operating mode of a small-sized two-stroke engine.

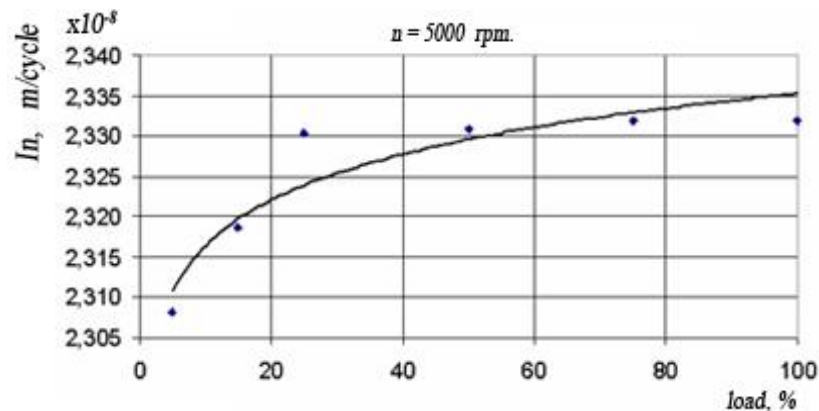


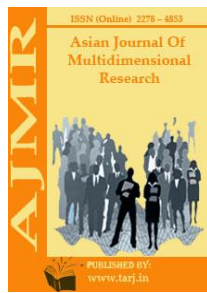
Fig. 5. The dependence of the cyclic wear of the piston ring on a load of a small-sized two-stroke engine.

Let us present some results of calculations of instantaneous wear and displacement of the ring in the piston groove, obtained by calculation for the operating modes of a small-sized two-stroke

engine with oppositely moving pistons according to the external speed characteristic and partial loads. The calculation was carried out by the method of simulation mathematical modelling in the system of simulation of internal combustion engines. In fig. 3 shows the movement of the upper piston ring in the piston groove of the engine piston along the angle of rotation of the crankshaft when operating at full load and 5000 rpm. It is clearly seen from the figure that when the engine is running at certain moments, the ring vibrates in the piston groove, which adversely affects the operation of the engine and the piston ring itself. Figures 4 and 5 shows the dependences of the cyclic wear of the upper piston ring depending on the speed and load modes of the engine. Thus, using the proposed mathematical models of the wear of piston compression rings, it is possible to predict their resources at the design stage of internal combustion engines. This will reduce the process of experimental fine-tuning of the cylinder-piston group, which is the main friction unit of the internal combustion engine.

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**IMPACT ON MICRO INSURANCE PRODUCTS
(A STUDY WITH REFERENCE TO SALEM DISTRICT)**

A Renuka*

*Research Scholar,
Department of Commerce,
Priyar University, Salem, INDIA

ABSTRACT

Insurance regulatory and development authority (IRDA) has created a special category of insurance policies called micro insurance (MI) policies to promote insurance coverage among economically vulnerable sections of society. India is pioneer in marketing and distributing micro insurance for rural and urban poor households. Low income people's manage the more risk by reducing the coverage insurance products and social protection. This product for life & health insurance, long term savings & investments, credit-linked products, and non-life products, property insurance etc. This study objective has to find out the insurance market opportunity for savings and investment insurers to develop business models larger market or social security and vulnerable sections development by reducing their risk exposure. Micro insurance contributes alleviate poverty and to raise the living standard income for depends people's secure of life. Micro insurance services grater level of awareness among the prospective SHGs, Co operative banks, MFIs, and NGOs and insurance companies of the rural communities. The objective of the study has been achieved by some following factors are poverty alleviation, unexpected risk, increase income, premium policy coverage. This study sample size has been selected 150 respondents from micro insurance policyholders and used the convenient sample techniques. A low income peoples for developing countries having used micro insurance products has most support to alleviate poverty, increase the intellectual investment and growth of marketing strategy employment opportunities, increase small industry and economic development. Micro insurance market can play a crucial role of a comprehensive tool to insurance products services, equality support towards to vulnerability, and social protection to public and financial services sectors.

KEYWORDS: Micro Insurance Products, Poverty Alleviation, Savings-Investment, Protection, Market Services.

1.1 INTRODUCTION

Insurance is the backbone of a country's risk management system. Risk is an inherent part of our lives. IRDA has formulated the micro insurance regulations, 2005 for providing a platform to distribute insurance products which are affordable to the rural and urban poor and to enable micro insurance to be an integral part of the country's wider insurance system. Micro insurance is the protection of low-income people against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved. Generally, micro insurance is ignored by mainstream commercial and social insurance schemes the insurance providers offer a variety of products to business and individuals in order to provide protection for risk and to ensure financial security.

Micro insurance market reach include products are life & health, illness, accident death and disability, loss of property due to theft or fire, agricultural losses and disasters of both the natural and manmade varieties. Micro insurance products provided by the micro finance organization (MFO) due to micro finance activity. NGO or other organizations operates the micro insurance schemes is in charge of everything both the design and delivery of products to provide services. NGO or MFI act as the intermediary between the population and insurance company. It comprises of risk-pooling products, it is appropriate for the low-income market cost, terms, coverage, and delivery mechanisms. Micro Finance helps to people improve livelihoods protection and the event of any unfortunate events. Micro insurance is effective even in markets with little experience of insurance as long as possible products and simple policies premiums are affordable products the administration is efficient, and distribution channels are innovative potential market services.

1.2 REVIEW OF LITERATURE

Arora and Poonam (2009)¹ A simple product with less coverage is easier to describe and has less circumstances to explain to staff and clients than a more complex product. If the client understands the product easily, then they are more probable to be pleased. The micro insurance regulations specify that contracts for products demarcated as micro insurance have to be issued language that is simple and easily understood by policyholders, separate certificates have to be provided to each member in case of a group policy and the same may be distributed through micro insurance agents, these agents can perform additional functions like collection of forms, remittances of premium, distribution of policy documents, assistance in the settlement of claims, and other policy administration services, which warrant the products to be simple and easy for the clients

According to ILO Report (2004)² the micro insurance experience in India exhibits great variations in volume of members, premium options, coverage, and insurance products. These products can be broadly classified into four categories: (i) Health insurance (ii) long-term saving and insurance such as life insurance and annuities (Endowment, Life annuities, Term assurances, and Saving completion insurance) (iii) credit-linked insurance products such as credit-life product and (iv) Non-life product such as property insurance (Kapoor and Rajkumar 2006)

Dercon and Cearer (2006)³ in service provider model microfinance institutions or commercial banks directly market their micro insurance products to their clients. The model needs a well established distribution network and are mostly used in the case of market insurance. The advantage of this model is high transaction costs as it targets low income groups, which is a low margin cost market because of the geographical spread of the client population.

Biswas, Sourav and Ratnadevi (2008)⁴ the pricing of the product should be done in a way to meet the required premium by the insurer and the administrative expenses also should be affordable by the target group. A range of products are available for the low income segment ranging from comparatively expensive health insurance to low priced group based credit- life insurance. The regulation has set limits for micro insurance products, which cannot increase more than Rs.50, 000 and the policy term not exceeding 15 years life and non-life and, the term is annual.

Sahu (2009)⁵ the following specific reasons for low demand of life micro insurance in spite of the intense need. The reasons were: (i) The rural financial markets characterized by limited in appropriate services adequate information and capacity gaps hindered the growth of rural insurance market (ii) Product design which resulted in a mismatch between client's needs and standard products on offer (iii) Absence of adequate and suitable insurance data was a major concern. In the absence of a suitable insurance database calculation of premiums ,cost, benefits, willingness to pay based on macro aggregates may not give actual insights (iv) The high cost of penetrating rural markets, combined with under utilization of available distribution channels, hindered the growth of rural insurance services (v) appropriate procedures in habit the development of the sector and (vi) Contrasting perspectives of the insured and the insurers will lead to low customization of products and low demand products is available in markets.

Sinha and Sudipto (2010)⁶ in this model an NGO or other organization operates the insurance scheme and fully absorbs risks, profit and losses arising from the same. The micro insurance scheme is in charge of everything both the design and delivery of products to the clients and working with external healthcare providers to provide services to the clients. This model is the most demanding an organization in terms of capacity, expertise and investment required to make it work, which entails the financial risk for the organization its maximum and are wholly responsible for all insurance related costs and losses.

1.3 STATEMENT OF THE PROBLEM

Today, social protection providing is not fulfilled in our country. Only 30% of the populations enjoy adequate social protection. More than 70% of the population inadequate infrastructures facilities life or health is not protected for a rural and urban poor person has to face many more risks. They face two types risk firstly, household related risk and secondly common risk like natural disasters. The Poor people are especially vulnerable to risks related to low income generation, old age problems, unemployment, illness, accident, sudden death of the sole earning member's etc. Low income household and irregular income patterns also insufficient savings habits and pre-planning investment for future is unsecure for poor peoples. So they need a social security. Poor people's are taken micro insurance products helps to poverty alleviate, savings-investment habits, increased family income, eliminate unexpected risk, and affordable premium regular payment for future. More and most support to family securities and improvement in secure life products services.

1.4 IMPORTANCE OF THE STUDY

Micro insurance specifically to provide protection to the low-income people's with affordable insurance products it could help them to cope from common risks. These present studies is covers, insurance marketing new products life & health, death and property insurance and eliminate unexpected risk and current market insurance products as a possible solution. Low income household a small regular premium payment in exchange for the promise of future

investments by the commercial and social sectors are increasing compensation in the event of a financial services markets. Improved access and efficient provision of savings, credit facilities enable their consumption, manage their risks better, build assets gradually and develop their micro enterprises. NGOs, government and micro financial institutions providing small loan and savings facilities to those are excluded from commercial financial services has been developed as a key strategy for reducing poverty alleviate throughout the country. The contribution of micro insurance marketing is poverty alleviation and welfare of the people's life is also market potential solution. Highlighting cases of best practice and suggests Social Funds can be used to deliver micro insurance services more effectively to poor households. Fulfillment of both rural and social sector obligation through micro insurance products.

1.5 Objectives of the Study

The objectives of this study are:

1. To measure the level of satisfaction micro insurance market and poverty alleviation.
2. To evaluate factors influencing the policy holder's in micro insurance markets.

1.6 Research Methodology

1.6.1 Sources of Data

Data was collected from both primary and secondary sources and analyzed using both qualitative and quantitative techniques. The study tools were administrated through holding interviews gathering information.

1.6.2 Sample Size and Techniques

The study sample collected from the micro insurance policyholders at Salem district in Tamil Nadu. For purpose of this sample size of 150 policyholders through NGOs located in Salem district. The present study was used convenient sample techniques.

1.6.3 Data Analysis and Techniques

1. Simple Percentage Analysis
2. Chi-Square

Analysis and Interpretation of the Study

TABLE -1. SOCIO-ECONOMIC PROFILE OF THE POLICYHOLDERS'

Particulars	Frequency	Percent
Gender		
Male	83	55.30
Female	67	44.70
Age Group		
21-30	30	20.00
31-40	65	43.30
41-50	42	28.00
Above 51	13	8.70
Educational		
Illiterate	62	41.30
UptoHSC	32	21.30

Graduates	25	16.60
Diploma	24	16.00
Professionals	7	4.60
Place		
Semi Urban	51	34.10
Urban	32	21.30
Rural	67	44.60
Marital Status		
Married	106	70.70
Widow	26	17.30
Widower	18	12.00
Family Type		
Nuclear family	123	82.00
Joint family	27	18.00
Occupation		
Agriculture	38	25.30
Self Employed	24	16.00
Govt,employee	20	13.30
Private employee	28	18.60
Others	40	26.60
Income		
upto5000	70	46.70
5001-10000	38	25.30
10001-15000	26	17.30
above 15000	16	10.70
Total	150	100

INTERPRETATION

From the above table shows that the socio economic profiles of policyholders were analyzed and the results are presented. The results indicated that about (55.30 per cent) of the female policyholder while the (44.70 percent) of policyholders are male. The result also show that about(43.30 percent) of the policyholders belong to the age group of 41 above years followed by (28.00 percent) 31-40 years , below 21-30 years (20.00 percent) . it is clear that about (41.30 percent) of the policyholders are illiterate followed by upto HSC are (21.30 percent) follow by diploma holders (16.60 percent) follow graduates (16.0 percent). majority of the policy holder are semi urban areas (62.0 percent) and urban areas (4.0 percent) it is apparent that about (70.70 percent) of the policyholders are married while the (17.30 percent) of the policyholders' are widow are (12.0 percent) of the policyholders widower. (82.0 percent policyholders belong to joint family, while the nuclear family (18.0 percent) of the policyholders belongs to the nuclear family. The majority the policyholders of the others (26.60percent) followed by govt, employee (39.30 percent) and self employed (38.0 percent) and agriculture policyholders (22.70 percent)

while the private employee (22.70 percent) . The result also show that about (46.70 percent) policyholders belong to the monthly income of more than Rs. 5001-10000 followed by the (25.30 percent) policyholders income upto Rs.5000 while the followed (17.70 percent) policyholders are Rs.10001-15000 followed by (10.70 percent) above15000 policyholders .

Micro Insurance Support towards Poverty Alleviation.

The micro insurance products support towards poverty alleviation and quality of life was analyzed and the results are presented in table-2

TABLE-2. MICRO INSURANCE MARKETS SUPPORT TOWARDS POVERTY ALLEVIATION. $H_0 =$ THERE IS NO SIGNIFICANT DIFFERENCE BETWEEN TWO GROUPS WITH REGARDS TO FACTORS OF MICRO INSURANCE MARKET.

Statement	Level of Agreement (%)					Mean	Chi-square	P-value
	SA	A	N	DA	SDA			
Protection	17.30	38.70	29.30	10.70	4.00	3.67	71.93	0.001
Savings	26.70	42.00	22.70	7.30	1.30	3.39		
Investments	20.70	44.30	21.00	10.00	4.00	3.45		
Income	19.30	31.30	37.30	7.30	4.70	3.69		
Profit	13.30	40.70	32.00	8.70	5.30	3.71		

INTERPRETATION

The results show that insurance market are provided protection, investments, savings and income, profit earned. Moreover; most of the insurance market are agreed that investment (44.30), savings (42.00), profit (40.70), protection (38.70). In overall, the analysis indicates that the micro insurance market has higher support to poverty alleviate and quality of life. The F-value of 71.933 is significant at one per cent level of significance.

TABLE- 3. 1 SOCIO-ECONOMIC CHARACTERISTICS AND MICRO INSURANCE PRODUCTS SUPPORT TOWARDS POVERTY ALLEVIATION.

$H_0 =$ There is no association between Gender and Micro Insurance market support towards Poverty Alleviation

Statement		Motivation			Total	Chi-square	P-value
		Strongly Disagree	Neutral	Strongly Agree			
Gender	Male	5	58	20	83	4.187	0.123
	Female	7	36	24	67		
Total		12	94	44	150		

TABLE: 3.2 – SOCIO ECONOMIC CHARACTERISTICS AND MICRO INSURANCE MARKET SUPPORT TOWARDS POVERTY ALLEVIATION.

$H_0 =$ There is no association between education and insurance market management support towards poverty alleviate

Statement	Motivation	Total	Chi-	P-
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		Strongly Disagree	Neutral	Strongly Agree		Square	Value
Education	HSC	1	12	2	15	11.617 ^a	0.169
	Illiterate	2	20	2	24		
	Graduates	5	33	24	62		
Diploma	2	18	12	32			
Professionals	2	11	4	17			
Total		12	94	44	150		

Note: 5 % level of significant.

Since the P value is greater than 0.05 the null hypothesis is accepted at 5 per cent level of significant. Hence, there is no association between Gender and Motivation, Education and insurance market management support to towards poverty alleviate. The results show that policyholders have a illiterate education level are neutral in insurance market management support to poverty alleviate than the policyholders HSC education level education. Besides, the female policyholders have neutral in management support to poverty alleviation.

TABLE-4.POLICYHOLDERRS' SATISFACTION TOWARDS MICRO INSURANCE MARKET MANAGEMENTLEVEL OF AGREEMENT (%)

Statements	HS	S	N	DS	HDS	Mean	Chi-Square	P-value
Direct channels	18.10	37.90	20.70	20.20	3.10	3.67	81.856 ^a	0.001
Affordable products	16.40	50.00	20.20	9.630	3.80	3.39		
Potential market support	20.10	44.90	19.00	13.00	4.00	3.45		
Product services	17.30	31.70	38.90	7.10	4.90	3.69		
Profit earned	11.00	44.70	29.30	11.20	3.80	3.71		

Interpretation

The results show that policyholders' satisfaction that the insurance market management are having direct channels, affordable products, potential support, products services, and profit earned. Moreover; most of the policyholders are satisfied that direct channels (**50.00**), affordable products (**44.90**), market support (**44.70**), products services (**37.90**). In overall, the analysis indicates that the policyholders have satisfied towards insurance market management by them. The F-value of (81.856) is significant at one per cent level of significance indicating that there is a significant difference in towards poverty alleviate among the policyholders.

1.7 Findings

Demographic Profile:

1. Insurance policyholders profile through percentage analysis ascertains that a maximum of 55 per cent of the policyholders are male.
2. It is found that maximum of 43 per cent of the policyholders are in the age of 21 – 30.
3. A maximum of 41 per cent of the policyholders are illiterate level.
4. Among the total policyholders, 46 per cent of policyholders are belonging to income group of below Rs.5000
5. Besides a maximum of 70 per cent policyholders are married tourists.

Policyholders' Micro Insurance Market Management Support:

6. There is a significant difference in insurance market management support towards poverty alleviate among the policyholders most of the agreed that protection, savings, and investment.
7. There is no association between Gender and insurance market management support, Education and insurance market management support towards poverty alleviate and quality of life. Because of majority of the male policyholders are neutral in insurance market management support towards poverty alleviate, illiterate level are neutral in market management support to poverty alleviate.

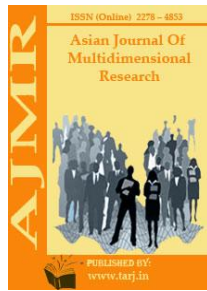
CONCLUSION

Government has an important role to play in developing public and private partnerships for delivering ambitious state funded insurance programs. Poverty alleviation is still a major problem of India. Micro insurance tries to extend social protection to poor people as well as providing financial services mechanism must be developed to minimize the transaction cost and improvement in insurance density. Insurance companies realized to recognize the future potentiality of the micro insurance market by expanding the customer base by providing affordable accessible and flexible insurance products. Increase in earnings improves the standard of living as well as to investment in business and Development of micro insurance products. A combined effort by government, regulator, insurance companies, NGOs and SHGs , MFIs, small industry are also Implementation of these technologies in the rural sector can alleviate poverty and create employment opportunities and generate good growth of insurance products services.

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RETRO STYLE IN MODELING WOMEN'S CLOTHING

Mirboboeva Gulhayo Abdusattorovna*^{*}; Urmonova Nodiraxon Qosimjonovna^{**}**

*Lecturer,
Fergana Polytechnic Institute,
Fergana, UZBEKISTAN

**Assistant,
Fergana Polytechnic Institute,
Fergana, UZBEKISTAN

ABSTRACT

In the world of fashion, retro style does not lose its significance for designers, it inspires them to new ideas. In the modern era, retro-style fashion is a special line that combines elements of the past and the present. It is a very delicate style, it includes the brightness of the paint, intricate silhouette and romantic mood. Modern stylists and designers are inspired by the past and come up with many ideas for themselves. Fashion still doesn't stop, and many trends that previously lost their relevance are once again hot and captivating women's hearts. Fashion enthusiasts of all ages will appreciate not only the retro style but also the shine and fame.

KEYWORDS: *Retro Style, Retro-Trends, Retro-Style Clothing Concept, Classic Clothing.*

INTRODUCTION

Human abilities, social environment, and political processes have influenced the development of the fine arts, which in turn has contributed to the constant renewal of fashion. In this sense, a careful study of the history of fine arts and clothing by identifying specific criteria for the development of artistic thinking allows for an in-depth analysis of changes in society and the acquisition of extensive knowledge. However, it should be noted that world art, although formed as a result of various influences, socio-political changes, has continued to evolve, constantly having its specific features. Different trends, trends, styles have emerged and a huge artistic heritage of mankind has been created. It is important that Western and Eastern countries gradually and interdependently study the basics of the formation and development of the history of clothing, focus on the analysis of trends, reasons for the emergence of styles, features, generalize the development trends of costume and fashion history.

MATERIALS AND METHODS

Retro style in dresses. The concept of women's retro style clothing includes different fashion trends, styles and types. The limits of this trend are assessed differently by designers and fashion experts. In many cases, in defining retro-trends, experts refer to things created before the 70s and 80s of the last century (Figure 1) [1-3]. All images based on creating a retro-style have a stunning, bright and unique look. However, it can be very difficult to combine them because they are always more likely to look funny. Also, improper classic clothing or accessories can make a dress look negative.



Figure 1. Retro-style dresses

Retro-style dresses: The retro direction offers models of women's clothing of different ages. Creates stylish and elegant images for every age. Depending on the specific period, women can wear long or short dresses, enriched with soft or thin skirt models. Thus, at different times, girls and women chose the following options:

- In the 1920s, Chicago's intellectual superiority, low-waisted, free-walking, and richly coloured dresses. In addition, these products are complemented by really beautiful decorative elements. These are pink boas and collars, original flowers, ornaments made of natural pearls, etc;
- In the 1930s, aristocratic products made from lightweight materials were popular. Today, the trends of this period are used to create beautiful evening dresses that are very elegant and emphasize the silhouette of the evening;
- In the 1940s, under the influence of the outbreak of war, fashion underwent significant changes. Wardrobe items began to look very simple, humble and impressive. Nevertheless, this period gave us one of the most popular styles - retro-style polka-dot dresses. The events of the Second World War are fully reflected in people's clothing. Luxury, chic and elegance temporarily moved aside, giving way to simplicity, modesty and functionality. Closed clothing, moderate length, high collar, comfortable shoes - all these are signs of wartime.
- In the 1950s, PIN-APT raised to the fashion Olympics. The women began to look stunning and luxurious again. From this period onwards, dresses with a soft, multi-layered sheen and stretched waist became a tradition.

- In the 1960s, girls began to strive for an open display of sexuality. Mini-length and bold, bold images began to be reflected in bright colours. The beginning of the next decade marked the revolutionary spirit of the times. People fully felt the stability of life and confidence in the coming day. The youth everywhere strove for the complete eradication of the well-established traditions and norms of life. The widespread hippie fashion trend has led to the emergence of loose-fitting geometric shapes with ethnic and floral motifs. Many wardrobe items lost their gender identity, acquiring unisex features. So, flared jeans, shoes on a bulky platform, bright large prints from a cage, flowers, and peas have become equally popular among women and men.
- The beginnings of democratic fashion in the 70s introduced the widest range of models. It is customary to wear loose-fitting dresses, short skirts and simple printed dresses. At the same time, bat-style suits emerged, which are often characterized by a retro style and are reflected in casual and evening wear. These are simple silhouettes, geometric shapes and bright colours. Dresses are more comfortable and practical, and popular styles are hippies and discos. Fashion - pants, jeans, miniskirts, dresses, bright pictures and blouses with pants.

Fashion trends of the past centuries are used by numerous designers who create modern fashion collections. Therefore, to dress in this style, it is enough to update the wardrobe with the things that they produce. However, you can also create your images. The main thing is to observe the fundamental rule of modern retro style - the combination in one bow of clothes from only one era and country. And for this, it is worth studying the features of the outfits that were worn in the decades that impressed you in America, Europe or the USA.

Retro blouses: Like all retro-style dresses for girls, blouses from this trend are very delicate and sophisticated. They are rounded collars or shelves, some models are decorated with rich jabots, flowers or bows. Although such ornaments can be monophonic, in most cases they are decorated with delicate embroidery, lace trim or cute printed ornaments. In addition, retro fashion style does not tolerate artificial materials, so all blouses in this direction are produced with cotton, linen, crepe china, chiffon, silk or organza.



Figure 2. Retro blouses

A retro-style women's coat looks like a dress, resulting in a sensible look for women in any situation. Typically, such products are above the knee, length-length, semi-curved silhouette, and look like a beautiful patch. In addition, these models can be decorated with tires and tires, toy belts or fur coats.

Retro style in modern clothing: In the new fashion season, many modern brides have created stunning images in retro style. For example, in the collections of Mascotte, Gucci and Valentina Yudashina, you can see evening dresses with gorgeous pants, plaid hats, as well as waist and retro shoes. The clothes from Michael Kors are imbued with the atmosphere of the last century. Extra coats, tight blouses, business suits and skirts will become a great decoration of any wardrobe. Dolce & Gabbana and Dior are promoting an attractive pin-up style this season. Their collections include micro-shorts, dresses, cropped dresses with an extreme waist, as well as swimwear and underwear in swimwear style. Every year, the popularity of the retro style is growing, and interest in this style has not diminished for decades. Maybe it's a different style that allows you to feel like a retro actress to one degree or another. Today, retro style is a special line in a modern costume that uses other elements from the past. Designers and fashion critics point out that retro style has always taken the best and most stunning from every era. Dresses created in the last century and beyond are classified as retro.



Figure 3. Retro style in modern clothes

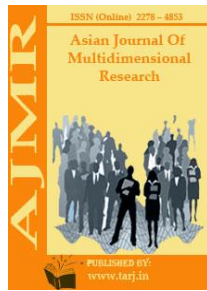
One of the easiest ways to create a retro look is to add a unique accessory. You can radically change your appearance with just one pair of glasses. It could be big Jacqueline Kennedy-style sunglasses. It's hard to meet a woman in a hat right now. But it is with the help of a hat that you can stand out from the crowd and create a unique style. Plus, they're more relevant this season than ever. There is nothing easier than creating a retro style with a stylish hat. When choosing a retro bag, you should be content with either a shoulder bag or a clutch. Accessories should be appropriate for clothing and footwear and should not attract attention. Jewellery helps to complement your image. In this case, we recommend paying attention to pearl jewellery. They are suitable not only for the everyday image but also for holiday evenings.

CONCLUSION

In the fashion world, retro style doesn't lose its relevance for a year, inspiring designers with new ideas, while sweet ladies experiment with dresses. Perhaps the nature of this woman is very artistic, and every representative of a beautiful feeling tries on a retro dress and dreams of becoming a heroine in a few years. Not everyone knows that retro covers a long period, including a large number of images, shapes, silhouettes, and idols of their creators from the 20s to the 70s. Retro fashion in the modern era is a special direction where the elements of the past and modern are combined. It is a very feminine style that includes brightness of colours, intricate silhouettes and a romantic mood.

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ANALYSIS OF THE DEVELOPMENT OF OLDER WOMEN'S CLOTHING OF DIFFERENT SUBCULTURES (ON THE EXAMPLE OF MUSLIM WOMEN'S CLOTHING)

Sovridinova Mohidil Husanqizi*; Yusupova Dilfuza Ubaydulloyevna;
Hoshimov Jasurbek Valiyevich*****

^{1,2,3}Assistant,
Fergana Polytechnic Institute,
Fergana, UZBEKISTAN

ABSTRACT

The article analyzes the composition of the assortment of adult Muslim women's clothing today and its types, structural divisions, colours, and requirements for fabrics. According to many modern women, Islamic clothing is a black veil, a black hijab, and all of this can only see one face, turning the fabric from crown to ball. However, modern Islamic fashion for women is a separate trend. According to Islamic tradition, this fashion is somewhat limited for women to completely cover their bodies and cover their heads, but it still exists. In our time, Muslim women are offered a variety of hijabs, even wide garments that are used instead of the hijab. And in general, wearing long dresses can not only follow the canons but also be on-trend.

KEYWORDS: *Older Women, Marketing, Clothing, Silhouette, Colour Features, Fabric Type, Religious Clothing, Burqa, Hijab, Mask, Jilbab, Abaya, Demand, Desire, Need.*

INTRODUCTION

Older women have recently become active participants in all social and interpersonal communication processes in modern society. In this regard, it is emphasized that this group of consumers is interested not only in high-quality and comfortable clothing but also in clothing that helps to develop and strengthen success in professional and interpersonal relationships. From a marketing point of view, older women are more interested in clothing manufacturers because of their high demand for clothing. Indeed, apparel manufacturers do not take into account the needs of this consumer group in practice when forming industrial collections, despite the need to constantly increase the number of sales by attracting new groups of buyers. These assumptions are confirmed by experimental studies of the satisfaction of older consumers with the types of clothing offered by manufacturing enterprises.


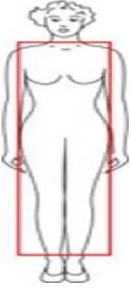

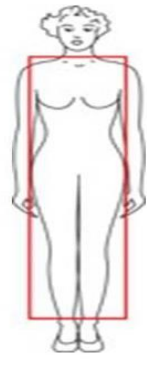
MATERIALS AND METHODS




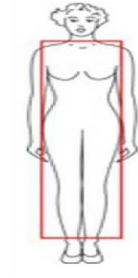

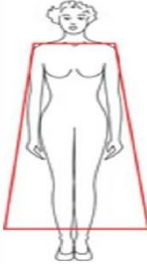

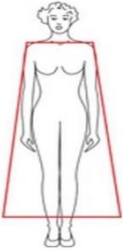
The development of competitive clothing design for older women is part of a project task that requires a modern approach to the design process, where, in addition to anthropological research data, information is used to stimulate clothing consumption motives in this group. An analysis of the literature has shown that the process of developing clothing design for older women requires further study. We set ourselves the task of collecting available information. The first task is to set age limits for the consumer based on the available periodicities and analyze the design process and the possibility of forming seasonal collections for older women.


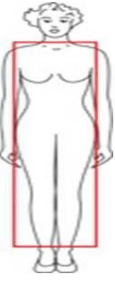


Like one of the Islamic countries, Uzbekistan has its Islamic clothing, which meets the requirements of ancient and modern times. The basic principles that shape the consciousness of Muslim women in the hijab mask include several components: respect for the culture of the past, fashion for national costumes. Long clothes seem to impede freedom and restrict movement, although the owner is comfortable in them.

According to religious norms, clothes should not fit the body; they are made of dense fabric that does not shine in the light. Fabrics use a calm colour scheme, you should not over-decorate clothes. There are several types of traditional Muslim women's clothing, and each type is made up of individual elements. Each of these types has been identified, and Table 1 highlights the differences in the individual analysis of clothing type composition.

TABLE 1. THE DEVELOPMENT OF CLOTHING IN THE MUSLIM TRADITION

The name of the dress	Model picture	Silhouette	Colour gamma	Fabric type	Decorations
The paranji consists of 2 parts: 1- cover 2- chachvon			For the spring and fall seasons, grey, brown, blue, and purple are recommended.	Avrasi is made of kimkhob, banoras, alachap and other fabrics, the lining is made of chit and satin, and the edges are made of blue, pink or blue silk.	The two sides of the paranji (pocket position) are joined by two 25 cm long jaws. The buds are removed from the ends of the beaks, and sometimes the bells are hung.
The shape of the paranja is in the form of a cloak, long, narrowing down from the shoulders, close to the hem of the band (sleeve).			Nowadays, the veil is used in ceremonies. Colours are dark red, white, pink, green, red	Materials are selected from mohair, velvet, chiffon, black and floral fabrics. It should be as aesthetically pleasing as possible.	In Tashkent and Fergana, the shawls were intoxicated with silk embroidery. In Bukhara and Samarkand, the shawl is sewn without embroidery from black and floral fabrics, only the edges and sleeves are

					decorated with ribbons.
The hijab is slightly longer than the waist and the sleeves are long and straight, without a collar.			In hijab clothes, the colours are light pink, purple, and cream, depending on the season.	As it is for spring and summer, stamp, crepe, chiffon.	The hijab is an integral part of a Muslim woman's wardrobe and no woman can go out without wearing it. This is a blue or black coat that hides his face and hair.
Hijab is a garment worn by Muslim women when they go out to hide their bodies and face.			In the choice of colour for the hijab in 2021, half-pink, white, grey-dark blue, decorated with various floral patterns on the front.	Taking into account the hot climatic conditions, the fabric is breathable, crepe, crepe de chine, knitted fabric.	Stylish clothes "Hijab" are expensive and densely sewn flowers are hand-decorated with embroidery.
Abaya is an Islamic outer garment worn in plain clothes. The long sleeves are reminiscent of a wide dress with a long floor.			The robe is selected in black or white.		Jordanian women are allowed to choose abaya with embroidery or rhinestones;
Abaya			As Abaya is thicker and stiffer fabric type is chosen. Leonkhan beqasam	Outerwear is recommended for adults in black, black, dark blue, dark grey.	As Abaya is outerwear, the pattern can be sewn on the front and back springs.

<p>The mask is complete concealment of the eyes behind the curtain and covering the hands with gloves.</p>			<p>The wearing of the niqab by Muslim women protects them from external influences. Mainly dark blue, green, black colours are recommended.</p>	<p>When choosing a fabric, it is recommended to use transparent and breathable fabrics, taking into account the general clothing.</p>	<p>The traditional dress of Muslim women is a niqab - it covers the face and hair, leaving a hole for the eyes.</p>
<p>Jilbabs are Muslim women's clothing that covers the entire body, leaving only the arms, legs and face exposed.</p>			<p>When choosing a colour for clothing, blue, white, brown, black are recommended.</p>	<p>Barbie, record, Leon jeans, silk, chiffon, stamps of the same colour can be used for jilbab.</p>	<p>A jilbab is a long garment made of dense fabric that covers the body.</p>

The Muslim women listed in Table 1 have historically opted for mostly black and inconspicuous dark clothing for the types of clothing. This is due to the long wars because, in order to avoid problems, they should not attract too much attention on the street. Men, on the other hand, wore white clothes as protectors of mothers, wives, and girls. With the advent of peaceful life, black and dark dresses have not lost their popularity, but Muslim women prefer to choose from a wide range of colours. Saturated and pastel shades of clothes are fashionable and emphasize the individuality of the owner.

Features of women's clothing colours: peach and light pink - for girls, plum, olive, mustard, emerald and chocolate - were the choice of older women. Muslim women have only two requirements for fabrics. First, the material must be dense enough so that the body does not shine. The next requirement is that the material retains its shape without rigidity during movement, the resistance of the fabric to physical and mechanical impacts, air and water permeability. The fibre content is also important: clothes are made of natural materials that are comfortable in hot or cold weather.

Muslim women prefer thick linen, cotton, velvet, wool and staples, satin or viscose fabrics. To date, it has been found that they also wear clothes made of the stamp, chiffon, crepe de chine, crepe chiffon, knitwear, mohair, velvet, and chiffon, black and floral fabrics. The needs and desires of our older women in modern Muslim clothing have been studied, and based on this, it has been found that there is a lack of assortment of clothes, silhouettes and appearance in the production. Special attention should be paid to our women.

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ANALYSIS OF TEXTURE CHARACTERISTICS OF MODIFIED AND ACTIVATED NAVBAHOR BENTONITE

Jobir X. Xamroyev*; **Jasur H. Shukurov****; **Normurot I. Fayzullayev*****;
Otabek B. Mahmudov****; **Kamolddin A. Kungratov*******

*Assistant,

Department of Medical and Biological Physics,
Samarkand State Medical Institute, Samarkand, UZBEKISTAN

^{2,5}Teacher,

Academic Lyceum of Samarkand State University,
Samarkand, UZBEKISTAN

*** Professor,

Doctor of Technical Sciences,
Department of Polymer Chemistry and Chemical Technology,
Samarkand State University, Samarkand, UZBEKISTAN

Email id: f-normurot@samdu.uz

****Master,

Samarkand State University,
Samarkand, UZBEKISTAN

ABSTRACT

The method of modification and activation of bentonite of Navbahor district of the Republic of Uzbekistan is considered in the work. The purpose of the work is to modify and activate Navbahor bentonite and study the texture characteristics. To obtain Fe-modified bentonite by the Zol-gel method, an aqueous suspension of bentonite (ratio of solid and liquid phases 1:10, aqueous extract of the suspension pH is 8) was left to soak for one day at room temperature. It was then treated with ultrasound at a frequency of 22 Gts for good dispersion of the bentonite particles for 3 min. The intercalating solution was prepared by mixing 1.0 M solutions of iron (III) chloride and sodium hydroxide. ($[OH^-]/[Fe^{3+}] = 2,0$) and left at room temperature for one day. The sol obtained after ageing was added dropwise to a 10% aqueous suspension of bentonite. The resulting modified bentonite was separated from the liquid phase in a Büchner funnel using a vacuum pump after 24 h. It was washed with distilled water until a negative reaction to the chloride ions and dried at room temperature. It was then thermally treated at 500

°C for 2 h. The method of obtaining hand-modified bentonite is carried out according to a similar method of obtaining Fe-modified samples.

KEYWORDS: *Modification And Activation Of Bentonite, Natural Bentonites, Microporous, Ion Exchange.*

INTRODUCTION

The study of the structure and properties of existing and widespread natural raw materials - a class of layered bentonites derived from clay rocks is an important scientific task aimed at creating new multifunctional materials [1,2]. This is mainly explained by the specificity of the physicochemical properties of layered bentonites, the ability of active centres of different nature, adsorption and ion exchange. This opens up a wide range of possibilities for their use, for example in the creation of new effective materials for water treatment and wastewater treatment, sorbents in pharmacology, anti-migration and filtration barriers for long-term storage of hazardous waste [3-8].

Layered silicates are common minerals in nature. They make up to 75% of the earth's crust. The most well-known representatives of layered silicates are clays. Clays have long been used in various fields of human activity. Their field of application is very wide: the production of ceramics and construction products, oil extraction and refining, metallurgy, chemistry, paper, pharmaceuticals, food and other industries [9].

They are also known as natural sorbents, ion exchangers, catalysts, and catalyst carriers [10 - 13]. The development of new methods for changing the structure of layered silicates and changing their physicochemical properties is constantly expanding the areas of their use. Recently, intensive research has been conducted on the creation and study of multifunctional inorganic 2D-nanomaterials belonging to intercalated layered substrates. Among them are pillar (or columnar) materials, which are distinguished by their unique texture and physicochemical properties. They are distinguished by a specific surface area, regular distribution of micro and mesopores, thermal stability and the presence of active centres of different nature. Therefore, efficient sorbents, molecular sieves, catalyst carriers, etc. are obtained from them. At present, a large number of (pillar) superior materials based on bentonite matrices with unknown layered chemical formulas cross-linked with hydrolytic products of different metals are known [11].

Among the modification methods, pillaring is of great interest to researchers, this technological method opens wide prospects for the functional application of natural clays in various fields of science and technology. Pillaring is the process of maintaining a layered system while at the same time turning it into a heat-resistant micro- or mesoporous material. The basic concepts of the structure of elephant clays were formed in the research of Pinnavay [12-13], Sterte [14-16] and other scientists. Regardless of its specific properties, this process can be described in three main stages: 1) hydrolysis of polyhydroxy complexes of the metal, 2) ion exchange (intercalation) of interlayer cations of layered bentonite, 3) heat treatment (firing) of layered bentonite.

EXPERIMENTAL PART

Activation of bentonite was carried out after purification of local mud in the following order: 100 g of natural clay was dissolved in 1 litre of distilled water. The resulting suspension was poured into a hydrocyclone battery system and cleaned of impurities for 1 h. The purified suspension was

left for one day and the fine fraction was separated in a centrifuge. The resulting fine bentonite powder was first dried in the air, then in a vacuum at 70 °C for 4-5 hours.

In a two-litre flask equipped with a mixer and refrigerator, 100 g of finely dispersed powder purified bentonite was placed and dissolved in 1 litre of distilled water, then the suspension was heated to 60–70 °C and a 10% hydrochloric acid solution was added dropwise, stirring for 2 h. The resulting reaction solution was then cooled to room temperature. After cooling, the solution was repeatedly mixed with 500 ml of distilled water, centrifuged to separate the activated bentonite, and the resulting product was dried in a vacuum oven at 65 °C for 12 h.

Method of modification of bentonite with sodium hydroxide:

To obtain bentonite modified with sodium cations, we used a pre-activated H-form (hereinafter bentonite) of bentonite separated from the Navbahor deposit mud [22-25].

The previously prepared H-form of bentonite was modified with sodium hydroxide. A 2-liter flask was charged with 100 g of bentonite and 1 litre of distilled water was added to it. The calculated amount of pre-prepared NaOH solution was poured into the prepared 10% suspension solution. The prepared mixture was stirred at 85 °C for 30 min. The sodium hydroxide solution was then added dropwise. After all of the sodium hydroxide solution had been added, the mixture was stirred for another hour. After modification with sodium hydroxide, the resulting solution was washed several times with distilled water and filtered, dried in a vacuum oven at 70 °C for 48 h.

Acid activation and modification of bentonite: Before activation and modification, the original form of the sludge is enriched, i.e. a finely dispersed fraction of less than 1 micron in size is separated. To do this, the sludge is passed through an accumulator of hydro cyclones, where the sludge suspension passes several times through an injector tube, where the layered silicate clay particles are broken and the best part of the bentonite is separated after enrichment. The best way to increase the catalytic properties of bentonite is cation exchange (activation), which is carried out with the possibility of further modification in solutions of mineral acids with the formation of the H-form of aluminosilicate. The mud activation process includes the following basic operations:

- Enrichment and selection of fine fractions;
- Activation with hydrochloric acid;
- Centrifugation of the resulting suspension;
- Washing of activated sludge;
- Filtering;
- Drying.

Acid activation of bentonite is a necessary step in the chemical modification of layered silicate. As a result of this activation, some changes occur in the bentonite composition associated with the exchange of positively charged exchangeable cations with hydrogen ions. This leads to the formation of the hydrogen form of bentonite. It should be noted that, depending on the activator concentration, the maximum leaching of the exchangeable cations can be achieved. Thus, as a result of activation of bentonite with hydrochloric acid, complete replacement of Na^+ , Ca^{2+} , Mg^{2+} cations with H^+ ions can be achieved, as a result of which the

surface of bentonite increases both the radius and volume of pores. This is necessary for further modification and enrichment with the most optimal alkali metal cations. Bentonite was activated with 10% hydrochloric acid and modified with sodium hydroxide. It is known that the limited use of bentonites as adsorbents is due to their relatively low cation exchange capacity in the natural state. Alkaline activation is performed to increase this figure.

Production of Fe-modified bentonite by Zol-gel method: Aqueous suspension of bentonite (ratio of solid and liquid phases 1:10, aqueous extract of the suspension pH i 8) was left for one day to swell at room temperature. It was then treated with ultrasound at a frequency of 22 Gts for good dispersion of the bentonite particles for 3 min. The intercalating solution was prepared by mixing 1.0 M solutions of iron (III) chloride and sodium hydroxide. ($[\text{OH}^-]/[\text{Fe}^{3+}]=2,0$) and left at room temperature for one day. The sol obtained after ageing was added dropwise to a 10% aqueous suspension of bentonite. The resulting modified bentonite was separated from the liquid phase in a Büchner funnel using a vacuum pump after 24 h. It was washed with distilled water until a negative reaction to the chloride ions and dried at room temperature. It was then thermally treated at 500 °C for 2 h.

Production of Al-modified bentonite by Zol-gel method: The aqueous suspension of bentonite (ratio of solid and liquid phases 1:10, aqueous extract of the suspension pH i 8) was left to swell at room temperature for one day, then treated with ultrasound at 22 Gts for good dispersion of bentonite particles for 3 minutes. Hand-held bentonite was prepared by hydrolysis of 0.2 M solutions of aluminium (III) chloride and sodium hydroxide at room temperature to obtain an intercalating solution ($[\text{OH}^-]/[\text{Al}^{3+}]=2,0$). The solution was aged at 50 °C for 24 h. Under these conditions, polyhydroxycation $[\text{Al}_{13}\text{O}_4(\text{OH})_{24}(\text{H}_2\text{O})_{12}]^{7+}$ complexions were formed. This solution was then added dropwise to the intercalating solution suspension. and postponed for a day. Separation, washing, drying and firing of samples are carried out according to a similar method of obtaining Fe-modified samples. Differential thermal analysis was performed using NETZSCH STA 409 PC/PG derivatography (sample weight ~ 50 mg) in a temperature range from 20 to 800 °C (heating rate 10 °/min). X-ray phase analysis of the catalyst was performed on an Advanced D8 diffractometer (Bruker, Germany) at an angle of 2 θ reflection from 20 to 80° in CuK_α - monochromatic radiation. Phase identification of crystalline compounds was performed using the JCPDS PDF2 X-ray powder standards database. The adsorption and texture properties of the obtained samples were evaluated by volumetric method from physical adsorption-desorption of low temperature (77 K) nitrogen in ASAP 2020 MR surface area and porosity analyzer (Micromeritics, United States). The surface morphology of the catalyst was studied using a JSM-5610 LV scanning electron microscope, JEOL (Japan). Qualitative and quantitative analysis of the element composition of sorbents was carried out on the energy-dispersion X-ray fluorescent spectrometer by the method of fundamental parameters EDX-720 (SHIMADZU, Japan). The principle of operation of the spectrometer is based on the measurement of the intensity of fluorescent radiation by detectable atoms, which are stored in the test under the influence of X-rays. A semiconductor detector cooled with liquid nitrogen was used to record X-ray radiation quanta in an energy-dispersion spectrometer.

RESULTS AND DISCUSSION

X-ray examination of the mud fraction was performed on an X-ray diffractometer DRON-7.0. The experiment was performed under normal conditions using CuK_α -radiation. The studies were performed on three drugs with the same suspension density and thickness on the substrate. The first diffraction sample was heated at 600 °C for 1 h, the second from a sample saturated with

methyltretbutyl ether, and the third from a natural sample (Fig. 1). The specific surface area of the BET (Brunauer-Emmett-Teller) (SBET), the volume of the micro-pores (V_{mp}), the volume of the meshes (V_{mzh}), the total volume of the pores (ΣV_{pore}) and the average diameter of the pores (D_{av}) are given in Table 1.

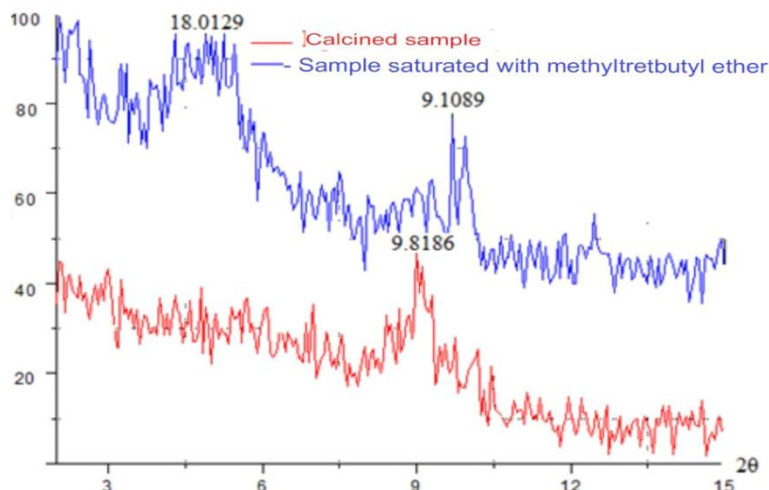


Figure 1. Diffractogram of bentonite fractions

Peeling of layered bentonites: Pillaring is a special case of intercalation in which the introduction of inorganic compounds into the interlayer space takes place. Regardless of the properties, the modification process can be reduced to three main stages: 1) hydrolysis of multinucleated metal ions hydroxy complexes (PHC) -pillar solution, 2) ion exchange, 3) heat treatment of the modified material.

TABLE 1. TEXTURE CHARACTERISTICS OF SAMPLES

Sample	$S_{BET} \cdot M^2/g$	$V_{mn} \text{ cm}^3/g$	$V_{mzn} \text{ cm}^3/g$	$\Sigma V_{nop} \text{ cm}^3/g$	C_{cpHM}
MM	96	0,010	0,160	0,170	7,00
Al ₁₃ -PMM	108	0,029	0,137	0,166	8,42
Al ₃₀ -PMM	125	0,035	0,138	0,173	8,04

Figure 2 shows a diagram of the settling process of layered bentonites. In aqueous solutions, montmorillonite swells as the distance between the bentonite layers increases. Aluminosilicate is placed in a pill solution containing multi-core metal hydroxides, and ion exchange of interlayer clay cations is performed for larger multinucleated hydroxy complexes. Polyhydroxy complexes are usually obtained by hydrolysis of cations with a NaOH solution.

After ion exchange, the modified material is washed, dried, and heated. Heat treatment is accompanied by dehydration and dehydroxylation of the introduced polyhydroxides, resulting in the formation of metal oxide clusters (columns, columns) in the interlayer space of bentonite,

which is firmly bonded to the bentonite layers of bentonite and steel bridges. These clusters prevent the layers from converging, forming a stable two-dimensional micro-porous structure, in which the distance between the layers is significantly increased relative to the original material.

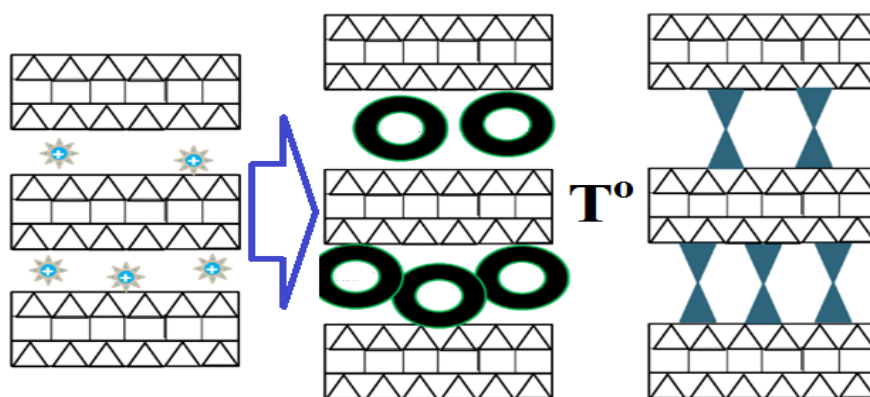


Figure 2. Layering scheme of layered bentonites

Layered bentonites modified by this method are called columnar, columnar, or layered silicates. In addition to the formation of micro-pores, due to delamination (stratification) of bentonite layers, additional formation of mesopores occurs during the peeling process, as a result of which the specific surface area of the resulting materials can reach 200-300 m²/g. The mesopores in the clays are mainly intercellular spaces. As for the formation of polyhydroxy complexes, the most studied metal ion is aluminium. Hydrolysis of aluminium salts is a multi-step process that results in the formation of aluminium hydroxide. According to modern concepts of the mechanism of formation of aluminium hydroxide, the first stage of its formation is the emergence and enlargement of multinucleated aluminium hydroxide complexes. Almost immediately after the dissociation of the salt, aluminium hexahydrate $\text{Al}(\text{H}_2\text{O})_6^{3+}$ is formed in solution, an octahedron with aluminium molecules at the centre and water molecules at the top. These types of ions can exist in the free state only insufficiently acidic solutions (pH <3). When the pH is higher than 3, assuming the coordination of the six water molecules as the first, the hydrolysis process, more precisely, its next stage, begins. In the process of layered bentonite plating, the researchers tried to solve two main problems: to maximize the textural properties of the starting material, as well as the introduction and detection of a catalytic active element in the bentonite composition.

Influence of heating temperature on the parameters of the porous structure of columnar bentonites: The heating temperature of the samples under the influence of the solution, rinsing and drying is an important factor determining the textural properties of the modified clay.

TABLE 2. TEXTURAL CHARACTERISTICS OF NAVBAHOR BENTONITE MODIFIED DEPENDING ON THE HEATING TEMPERATURE

№	Heating temperature	Texture characteristics		
		S_{ud} m ² /g	V_s cm ² /g	V_{mi} cm ² /g
1	400 °C	204	0,11	0,08

2	500 °C	156	0,08	0,07
3	600 °C	144	0,08	0,06

Obtaining conditions: hydrolyzing agent – NaOH, OH⁻: Me⁺⁺ = 2:1, T_{hydrolysis} =60 °C, T_{ion exchange} =60 °C.

As can be seen from the Navbahor modified bentonite example (Tables 2 and 4), as the heating temperature of the samples increases from 400 to 600 °C, their specific surface area and porosity decrease by about 30%, mainly due to the thermal adhesion of the micro-pores. Heat treatment of the original clay at temperatures above 100 °C leads to irreversible adhesion of the layers and deterioration of the texture parameters, along with the removal of interlayer water. However, as can be seen from the figures (Figures 3 and 4), no significant changes were observed in the porous structure parameters of the initial sludge samples in the heating temperature range of 70–500 °C.

TABLE 3. TEXTURE CHARACTERISTICS OF UNPEELED NAVBAHOR BENTONITE DEPENDING ON THE HEATING TEMPERATURE

<i>T °C</i>	<i>S_{yo}</i> <i>m²/g</i>	<i>V_s</i> <i>cm³/g</i>	<i>W₀ cm²/g</i>	<i>E₀ kDj / mol</i>
70	65	0,062	0,031	12,74
100	64	0,064	0,031	13,38
150	72	0,061	0,034	13,09
400	74	0,072	0,035	12,44
500	66	0,063	0,032	11,72

TABLE 4. TEXTURE CHARACTERISTICS DEPENDING ON THE HEATING TEMPERATURE OF THE MODIFIED SAMPLE OF NAVBAHOR BENTONITE

<i>T °C</i>	<i>S_{yo}</i> <i>m²/g</i>	<i>V_s</i> <i>cm³/g</i>	<i>W₀ cm²/g</i>	<i>E₀, kDj / mol</i>
150	128	0,082	0,064	15,63
250	173	0,098	0,089	16,58
350	183	0,100	0,094	16,79
400	187	0,116	0,095	16,49
450	168	0,110	0,086	16,28
500	144	0,096	0,076	17,18
550	108	0,075	0,058	15,60
600	101	0,070	0,052	15,94

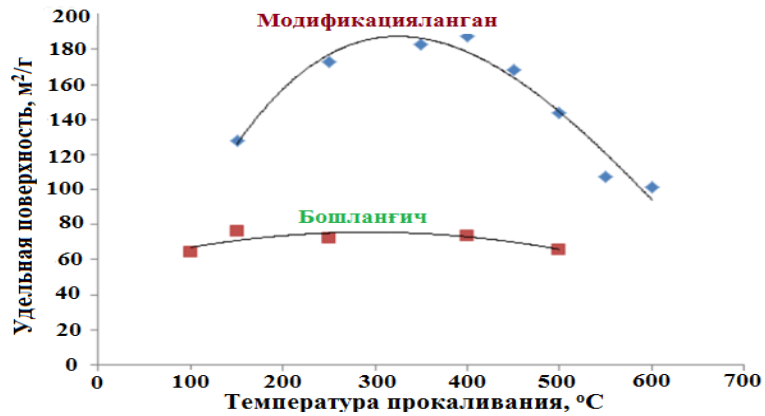


Figure 3. The effect of heating temperature on the surface of bentonite

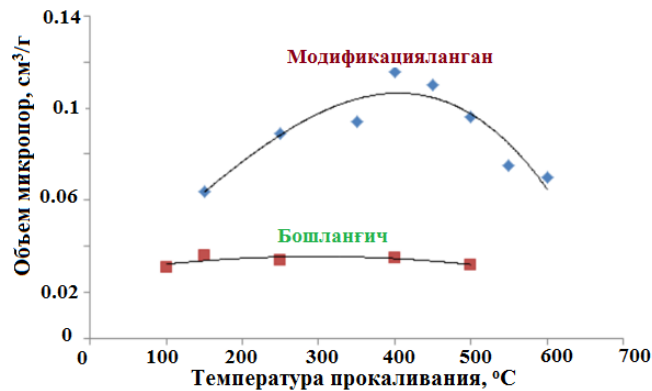


Figure 4. The effect of heating temperature of bentonite on the volume of micropores

Regardless of the composition and modification conditions of natural bentonites, the mean mesocyte diameter of all samples remains constant and varies in the range of 4.0–4.1 nm (Fig. 5). It should be noted that as a result of tableting, the size of the mesentery is reduced.

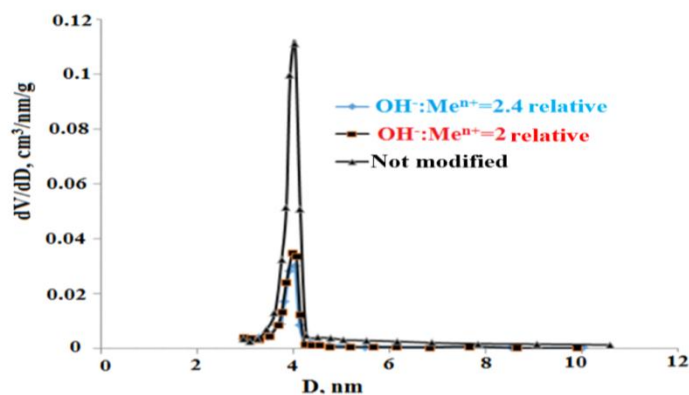


Figure 5. Dependence of the distribution curve of the diameter of the pores on the size of unmodified bentonite on the ratio ON-: I +

For samples of primary and modified bentonite heated to 400 °C, the highest values of specific surface area and porosity were observed. The dependence of the specific surface area and the volume of the micropores on the heating temperature for the modified sample is very high, at a maximum temperature of 400 °C. In the process of polishing natural clay, all modified specimens showed significant changes in the properties of their textures relative to the original specimens and to the previous ones. It should be noted that natural mud contains micro-pores, but their volume is 30-40% of the absorption volume of the pores.

Modified specimens have mainly a micro-porous structure; the proportion of microporous volume is 70–80% of the total pore volume (Fig. 6).

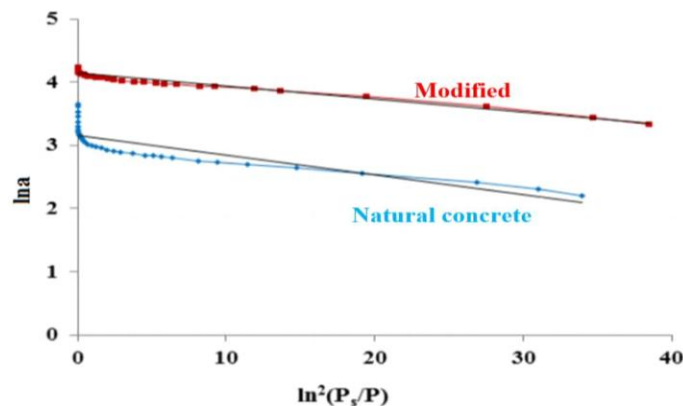


Figure 6. Isotherms of nitrogen adsorption at 77 K in linear coordinates of Dubinin-Radush-Kevich equation of natural and modified bentonite

For natural and modified bentonite, the isotherms of nitrogen adsorption at 77 K are shown in linear coordinates of the Dubinin-Radushkevich equation, which satisfactorily describe the experimental data; mainly used in calculating the volume of E_0 micropores. The specific energy of nitrogen adsorption in the modified samples increased 1.3-1.5 times compared to the original samples, which indicates an increase in the adsorption capacity of the obtained materials.

Based on the obtained data, the technological schemes of activation of natural mineral sorbents are developed. Sorbent activation technology is simple and well reproducible. Processing of natural sorbents in real production conditions is divided into two main stages: 1) primary processing of natural mineral sorbents, including mining, transportation, crushing and classification of raw materials; 2) secondary processing of natural sorbents, consisting of their chemical and thermal activation, followed by classification, packaging and production of modified products. Carrying out these operations is possible only in the presence of appropriate treatment facilities, in the appropriate chemical production, equipped with several necessary capacity devices that connect the pipes and pumps.

CONCLUSION

Thus, the methods of modification and activation of Navbahor bentonite were considered and the texture characteristics of the obtained sample were studied. Regardless of the composition and modification conditions of natural bentonites, the mean mesocyte diameter of all samples

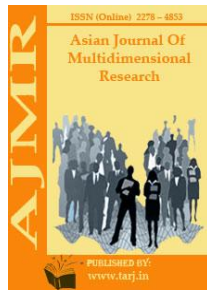
remains constant and varies in the range of 4.0–4.1 nm. It should be noted that as a result of tableting, the size of the mesentery is reduced. In the process of polishing natural clay, all modified specimens showed significant changes in the properties of their textures relative to the original specimens and to the previous ones. Modified specimens have mainly a micro-porous structure; the share of microporous volume is 70-80% of the total pore volume. The specific energy of nitrogen adsorption in the modified samples increased 1.3-1.5 times compared to the original samples, which indicates an increase in the adsorption capacity of the obtained materials.

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SCIENTIFIC AND PROJECT ANALYSIS OF THE CONCEPTS OF CONSERVATION AND INTEGRATED DEVELOPMENT OF THE HISTORICAL CENTRES OF THE CITIES OF UZBEKISTAN

Sodiqov Doniyor*; Xalimov Xabibullo*

Master's Degree Student,
Fergana Polytechnic Institute,
Fergana, UZBEKISTAN

ABSTRACT

The article deals with the study of the history of formation and development of historical centres and monuments based on national values, the creation of projects of historical monuments and centres that meet modern engineering, aesthetic and utilitarian requirements, based on the studied national experiences. The development option of historical city centres depends primarily on the development, scale and direction of the existing city, and the historical and artistic value of the monuments has a significant impact on the architectural and spatial solution of the centre, the formation of the composition. The expressive value and compositional significance of the historical and architectural complexes of the emerging centres, their relevance to the scale of the developing city are the basis of the compositional idea of the modern centre.

KEYWORDS: *Historical Monuments, Landscape, Architectural Ensemble, Infrastructure, Reconstruction.*

INTRODUCTION

Recently, great attention is paid to architecture and urban planning in our country. In particular, the issues of reconstruction of the city, the restoration of historical and old parts of the city are in the focus of the Republican leadership. There are 17 historical cities in Uzbekistan, including the cities of Shakhrisabz, Bukhara, Samarkand, Khiva, Part of the old city and their historical monuments are included in the UNESCO list.

Until now, the restoration of the old urban parts of the historic cities has been limited to the restoration of the historical monuments [1,2]. The solution to the problem of reconstruction of the old part of Samarkand is reviving the reconstruction of parts.

MATERIALS AND METHODS

The decision of the former Soviet government on the "Master Plan for the Reconstruction of Moscow" adopted in 1935 is important in the formation and ideological direction of urban planning and landscape architecture in the Central Asian republics, including Uzbekistan in the early and mid-twentieth century. It has been. Because all the Central Asian Republics had been part of the former USSR since 1924. Therefore, most of the architectural and urban planning principles outlined in the project of reconstruction and development of Moscow have served as a basis for the development of master plans of the capitals of Central Asian republics - Tashkent, Samarkand, Dushanbe, Almaty, Ashgabat, Bishkek. It should be noted that along with local urban planners, architects from Moscow and Leningrad were actively involved in the design of master plans of these cities. The issues addressed in these projects were related not only to planning, technical, environmental and transportation issues but also to landscaping and landscape architecture and garden art [3,4]. In particular, in the projects of redevelopment and landscaping of Tashkent, first developed in 1924-1931, and then in 1933-1937, the "old" city and the "new" city were merged to create a unified urban planning organism, new residential areas, and the reorganization of the city centre, the construction of highways, parks, alleys, the use of existing water bodies passing through the city, and the establishment of green areas on their shores. In 1981, a detailed plan of the centre of Samarkand was developed, which provided for the expansion of the city centre, especially its central avenue, to the south to the Lolazor district. The idea of creating a continuously integrated system of garden and park art and landscape objects and equating their existing space with architectural objects was put forward in the project.

According to a project to rehabilitate the Registan architectural ensemble in Samarkand (1968), the former Soviet-era public buildings around the ensemble were demolished and replaced by a park and flowerbeds. However, this move did not have a positive effect on the Registan ensemble. The glorious ensemble has lost its original scale in the newly created spacious environment and has become an artificial exhibit in the museum, because of the scale of the historical environment around it and the corresponding handicrafts. lost harmony.

The large administrative area created in the new city centre of Samarkand is huge in its own right, and its landscape solution has not been perfected. Most of it is asphalt concrete, the rest is large concrete slabs and a large wide-open area paved with stone is warmer on hot summer days and cooler in winter. To coordinate the climate of the area and improve the architectural and landscape solution of the area, a "Fountain Garden" is being built here. In addition, regardless of the task, it is advisable to increase the volume of indoor green space in the area, to form it in the style of a traditional garden and park. The following problems of the reconstruction of the old part of the city can be pointed out:

- Transport problems - the construction of highways, local roads, regulation of narrow streets, storage of private cars;
- Engineer-technical infrastructure problems are mainly related to sewerage;
- Establishment of public service centres;
- Reconstruction of housing;
- Restoration of historical and cultural monuments;

- Landscape ecological: rehabilitation of green areas in front of public buildings of the irrigation system.

The following can be suggested to solve the above problems. The basic idea is that the old part of the city should be considered a town-planning monument. Residents of the old city should live a full-blooded life: housing should be provided with modern utilities, a historical appearance, cultural and household services, transport services, etc. The main street of city importance will pass under the underground of the old city [5,6]. The existing streets Tashkent, Registan, Penjikent and Sozangaron will serve as streets of district significance. Local streets and narrow streets are arranged so that cars can pass. In the old part of the city, there is electricity and gas supply, plumbing, telephone communication, only underground communications are needed to maintain the structural appearance of the old city. Sewage supply is around 60%, and solving this problem is not technically a problem. In general, the problem of providing modern communications can be completely solved. In order to establish public service centres, it is necessary to restore the historically existing guzars and neighbourhood centres, to revive their gardens. [6].

The most important of the existing problems is the issue of housing rehabilitation. The construction of the houses in the old town consisted mainly of wooden slats and cotton walls, which were considered to be non-capital constructions. The walls and roofs are plastered with straw plaster. To date, even in developed countries, clay-soil material is recognized for its properties such as compliance with environmental requirements, good heat and cold resistance, low cost, and is widely used in construction (based on modern technologies). According to A. Kosinsky, the author of many buildings and small districts built in Samarkand, "It is a living organism with centuries of experience that allows a person to live and work normally in the extreme climatic conditions of Central Asia". In general, housing in the old city can be divided into 3 categories:

1. Housing of historical and architectural value, which is on the list of the Department of Preservation of Historical and Cultural Monuments;
2. Well-maintained but in need of current repairs.
3. Housing that has no historical or cultural value, is not well maintained or is in a state of disrepair.

The first type of housing will be rebuilt or repaired according to the dimensions and drawings, depending on the condition. The second type of housing will be repaired. The third type of housing will be demolished and new housing will be built while maintaining their area boundary and front floor. Alternatively, the vacant area can be used to expand the neighbourhood guzar or to create small green areas for recreation.

There are many historical and cultural monuments in the old city. The work should start with compiling a complete list of them and repairing them in accordance with the surrounding devices and giving them a modern function. In particular, it would be expedient to define the location of the 12 gates of the capital Tashkent as an example and to express it through symbolic small shapes, buildings or devices. The old town is closely connected with the Chashma spring, located in the area of the former Vodka Factory. In the past, many canals and ditches were built to irrigate crops and cool the air. The spring "Chashma" is a green, clean place on both sides, which serves to relax the population and enjoy the healing waters. Nowadays, various buildings and

devices are blocked along the spring, which makes it look aesthetically uncomfortable. It would be expedient to clean the neck of the spring from various devices, plant greenery, beautify it and turn it into a beautiful place for recreation.

If small parks were established in the neighbourhood centres as well, and these parks were connected and to the greenery around the Spring Fountain, it would also be a great contribution to the restoration of the old urban environment. Carrying out a large-scale advertising campaign to promote and popularize the brand of Bukhara through the organization of festivals such as "Silk and Spices", "Melon Festival", "City Day", "Oriental cuisine", "Bukhara Craftsmen", promote tourism potential through the organization of info-tours for representatives of foreign tourism organizations and the media, as well as the placement of information on the history and artefacts of Shaham on popular foreign TV channels and special websites and social networks;

- Training of personnel for the tourism industry of Bukhara city and Bukhara region;

- Creation of new tourist routes and development of new forms of tourism, including the development of tourism infrastructure around the lake "Agutma" in Shafirkan district, the overhaul of the ecological centre "Jayron" in the "Visit Center" and its surroundings. establishment of a zoological park, provision of necessary conditions for hunting, beach and sports tourism on the lake "Qoraqir" of Peshku district, beautification of the area around the museum "Afshona" and construction of special treatment houses;

Entrepreneurs and investment companies operating in the territory of the tourist zone "Ancient Bukhara" until January 1, 2021: a single tax for land tax, profit tax, property tax for legal entities, micro-firms and small businesses It is also exempt from mandatory contributions to the Republican Road Fund and the Fund for Development of Extrabudgetary Material and Technical Base of Educational and Medical Institutions under the Ministry of Finance of the Republic of Uzbekistan.

They also pay customs duties (excluding customs duties) on equipment, raw materials, components, construction and other materials that are not produced in the Republic of Uzbekistan, which they import for their own needs in accordance with the established list.). The khokimiyat of the Bukhara region has been instructed to determine the exact boundaries of the "Ancient Bukhara" tourist zone and craftsmen's quarter with an area of at least 10 hectares within two months, as well as to allocate land for construction to investment companies.

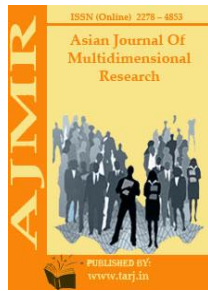
CONCLUSION

While architectural monuments retain a leading role in the composition of the city and the centre, new public buildings can be of subordinate importance, playing the role of background structures in relation to the main elements of the composition. Therefore, the construction of a new part of the historic centre can be created in the zone of regulation of construction, which is carried out on the basis of the law of restoration. However, in cities that have been turned into historical reserves, it is advisable to separate the new centre from the monumental historical buildings.

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OCCURRENCE OF LEXEMAS IN AVIATION TERMINOSYSTEM BY TYPES OF FORMS AND MEANING

Rano Turaevna Ergashova*

*PhD, Associate Professor of Languages Department,
The Higher Military Aviation School the Republic of UZBEKISTAN
Email id: Ergashova-91@mail.ru

ABSTRACT

Due to the development of science and technology, different types of lexemes began to emerge in terminology, especially in the field terminosystem, according to the relationship of form and meaning. In the aviation terminosystem, too, it has been found that the phenomenon of homonymy - the semantic formation of a sign, occurs as a result of the severance of the connection between polysemic word meanings. In this article, the continuous exchange of lexical units between terminological systems and the common language, the loss of some features of the words of the common literary language and their transformation into terms, on the contrary, the transformation of terms into units of the common language, differentiating of terminological homonyms with literary words are given.

KEYWORDS: *International Terms, Synonymy, Homonymy, Polysemy, Relation Of Form And Meaning, Lexical Unity, Semantics, Doublet, Variant, Semasiology.*

I. INTRODUCTION

Today, widespread synonymy in the field of terminology is considered by linguists as a phenomenon specific to the early stages of development and formation of terminology. The same situation can be observed in the Uzbek language aviation terminology. At present, the introduction of international terms into aviation terminology has led to the enrichment of terminology and the proliferation of synonymous terms.

For example: *biplan – samolyot – uchish apparati – planer – aviyetka;*

Aerodrom – aeroport – tayyoragoh – bandargoh;

Aviator – uchuvchi.

It should be noted that there is a big difference between “synonymous terms” and the notion of synonymy in common language. Synonymy is very useful for artistic, journalistic styles of

speech, freeing written and oral speech from the same repetitions.

It is well known that the diversity of more than one word in terms of spelling, and the similarity in terms of meaning are considered to be the main conditions for their mutual synonymy.

Synonyms are divided into two types according to the similarity between the semantic relations of words:

- 1) synonyms based on the exact similarity of the semantic relationship of words, that is, absolute synonyms;
- 2) The semantic relationship of words is generally synonymous, i.e. semantic synonyms. Issues such as the similarity of the meanings of words are defined within semantic synonyms¹.

II. MAIN PART

In aviation terminology, too, synonymy, doublets, variance occur as a result of various objective and subjective reasons, and in this regard, there is a need to justify synonymy in the terminological systems of languages.

This opinion was expressed by the scientist B. Oruzbaeva as follows: “In practice, there is no way to get rid of doublets completely. Therefore, terminological synonymy is inevitable for national languages”².

What is the phenomenon of synonymy in terminology? How do synonymous terms come about? It is natural that the question arises spontaneously. Synonymous terms with synonyms differ both in character and nature, and in their occurrence. Synonymous words are adapted to both style and speech. If a concept is expressed the same in written speech, it is expressed differently in oral speech. In terminological synonyms, however, style is not taken into account. Their meaning is fully consistent with the concept and object. This is why some terminologists also refer to such synonyms as terminological doublets.

For example: *zanjirli reaksiya – zanjirli harakat*;

masofali boshqaruv – masofadan turib boshqarish.

These parallel terms are used interchangeably in aviation terminology, and although the synonym is partially similar to the origin of the term, it differs from it in some respects and gives rise to semantic synonyms.

The problem of using several specific lexical units to name a concept has long been studied by both terminology and other fields of linguistics. Synonymy as a specific linguistic phenomenon is studied in the department of lexical semantics in linguistics and is studied in terms of the semantic structure of synonyms in the context of semantics.

The lexical synonymy of national (Uzbek) and international aviation terms can be traced back to separate terms (*yonilg'i – toplivo; yonilg'i quyuvchi samolyot – samolyot zapravshik; zambarak – pushka* (refueling aircraft; cannon - gun)), as well as compound terms (their components). Sometimes a mixed type of terminological synonymy has also emerged as a result of translating international terms into compound terms and at the same time using them in parallel. Although the exact use of international terms in the aviation terminology of the Uzbek language without translation is justified in some places, the introduction of international terms in practice, which have clear alternatives in our native language and clearly express the concepts related to aviation,

is justified. In languages with a rich written literature, it is stated in the relevant sources that the most appropriate way is to make full use of the existing alternatives of international terms and the internal lexical possibilities of the language and to translate the relevant terms. Many international terms can better meet the terminological requirements. The advantages of assimilation terms have been noted in a number of works devoted to terminology. The opinion of the Russian linguist L. Kutina's approaches are also noteworthy: "The simplest proof of the superiority of foreign language terms is their international character. But another argument is not lacking: the fact that foreign language terms are distinct from certain language systems, are not related to it, and are unlikely to be divided into secondary and additional meanings also shows their advantage. The word in the native language still needs to be formed as a term, and the foreign word, the assimilated word, is a borrowed term"³. Of course, it is impossible not to agree with this opinion. However, given the breadth of usage of international terms, we believe that according to the etymological aspect of the Uzbek language, terminology should be regulated on the basis of systematic analysis. If the terms self and assimilation layer gain clarity in the meaning of a particular concept, it is advisable to treat both. However, if the national term reflected in the synonymous series is multi-component, complex, and confusing in meaning, then the term assimilation is considered a basic scientific term. As many terminologists have noted, the emergence of synonymous terms cannot be considered a positive phenomenon in terminology. It will have to be seen as the result of a violation of terminological criteria.

III.RESULTS AND DISCUSSIONS

It is known that the lexical meaning of a word is studied by linguistics and is determined by the general characteristics of the sign, its semantics, syntax and pragmatics. It should be noted that many scholars have put forward the following as the main criteria for the existence of synonymy:

- 1) similarity – absolute originality, randomness of lexical meanings;
- 2) specificity of lexical meanings – closeness;
- 3) similarity, but differences in lexical meanings.

As for terminological synonymy, there are many theoretical problems that remain unresolved in this regard. Given the differences in the synonymy of common language and special vocabulary, the scholars suggested that they refer to such phenomena as "doublet", "variant", which are interrelated with the concepts of "absolute synonym" and "terminological equivalent", and called such a phenomenon conditional synonyms⁴.

Given the relevance of terminological research in general and, in particular, the problem of the existence of terminological synonymy, it is necessary to consider synonymy as one of the semantic processes occurring in aviation terminology.

Systematization of terms in modern terminology helps to regulate and develop the relevant field of knowledge. Synonymous lexemes, a category of concepts, exist in a specific and annotated dictionary, but for these lexical layers its meaning is not unambiguous and is assessed by linguists in different ways because, unlike the synonymy of common words, the synonymy of terms is inconsistent.

The intensity of the expression of synonymy in aviation terminology, in my opinion, depends on the following reasons:

- a) wide use of terms in the relevant areas of the aviation industry, due to the rapid and intensive development of these areas;
- b) lack of existing vocabulary to name new concepts more accurately;
- c) the influence of objectively occurring word formation and syntactic processes in language;
- d) extensive use of the term “avia” in the field.

The set of terms in each language forms the terminological lexicon of that language. This differs from the national language lexicon in some respects. But it is an integral part of the lexicon of the national language. Each field is formed according to the laws of its development. Terminology, on the other hand, is shaped to reflect these laws. The terminology of each field emerges on the basis of a common literary lexicon, which in turn has a regular impact on the development of literary language.

“In world linguistics, homonymy has been studied not only as an important theoretical issue related to the study of the basic unit of language – word boundaries, but also as one of the complex issues of practical lexicography. By the end of the twentieth century, the science of linguistics had risen from the empirical to the theoretical stage. Synonymy and polysemy were considered legal phenomena for languages, while homonymy was evaluated as a random phenomenon. In fact, homonymy is also one of the immanent and necessary laws for the language system. Hence, homonymy is a legitimate phenomenon of the language system, enriching the lexicon and grammar of languages. It should be noted that homonymy is a universal phenomenon for almost all layers of language, units of varying complexity in terms of structure and semantics”⁵.

A number of studies have been conducted in Uzbek linguistics on issues such as the nature and function of terms and their lexical and grammatical features, the differences between terminological vocabulary and common words. With this in mind, we make some comments on some lexical-semantic, grammatical features of aviation terms. The term is a clear linguistic expression of a concept belonging to a field or network of social activity. Some terms may be common to areas or networks that are close to each other. This indicates that there is a certain relationship between those industries or sectors. But the word industry should not be understood in a narrow sense, that is, only in science, technology or culture. The term is scientific. This is explained by the clarity of the concept being scientifically expressed. There is no emotionality or expressiveness in the terms. Some suffixes that express emotional-expressive meaning lose their function in terminology and create a term that is an expression of a clear concept.

IV. CONCLUSION

The phenomenon of polysemy is generally considered a legitimate phenomenon and serves to enrich the language. Polysemantic words have different meanings depending on the context. For the term, the text is not taken into account. It means only one concept in a certain system. Today, due to the rapid development of science and technology, the terminology of the field is also enriched. This, in turn, means that the term in a particular field is used alongside terms in other fields, i.e., the phenomenon of polysemy is also observed in terminology. When a term mainly refers to concepts related to the terminology of different fields, the semantic connection between the two concepts becomes unnoticeable. Because when people in one field, they don't even think about the concept of the other field. Hence, the formal equality in some terms follows from this. The phenomenon of formal equality in terminology is called homonymy. Homonymous terms

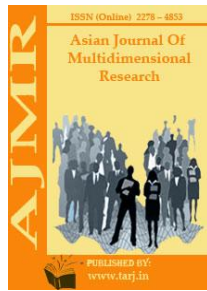
occur mainly as the same expression of different concepts and things in a particular language terminology. Almost all of the homonymous terms were polysemantic words, representing different concepts in the terminological lexicon. For example: *pressure, contact, dimension, stabilizer*, etc. Homonymous terms occur mainly as a logical continuation of polysemantic words. But the connection in meaning is broken because it belongs to different fields. While words such as *pilot, horizon, elevator, assault, rocket* are polysemantic words in literary language, they are homonyms in terminological lexicon. Because on the one hand, they are related in meaning, on the other hand, they belong to different terminological systems. That is, it is only a form in the terminological system. I think that the differences between homonymous words and homonymous terms are as follows:

1. Homonymous words occur within different word groups, while homonymous terms are always observed within one word group.
2. When homonymous words are used in the speech process for the purpose of providing artistic decoration and attractiveness, homonymous terms in terminology give rise to special terms.
3. When homonymous words occur in general, homonymous terms are formed within a certain field.

There are different ways of semantic transfer in literary language, and these factors affect and change the meaning of a word or term. The results of the study show that when a term is formed by the lexical-semantic method, not all semantics are equally involved. In Uzbek terminology, there is a situation in which household terms, human organs, various objects, etc., become a term due to the transfer of names, and the terms of the field can move to another field.

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METHOD FOR RATIONAL USE OF BOTANICAL OIL CONTENT IN WHEAT GERM PRODUCT

N.R. Djuraeva*; U.O. Tursunova**

*Channel of Technical Sciences, Assoc,
Bukhara Engineering Technological Institute,
The Republic of UZBEKISTAN

**Master,
Bukhara Engineering Technological Institute,
The Republic of UZBEKISTAN

ABSTRACT

The article focuses on the possibility and efficiency of the usage of the fine-dispersed wheat germ product as flour component of waterless oil-flour compositions where oil phase can exert preservative influence on the product at storage. Such oil-flour compositions can be used as special oil products intended for baking bakery foods of the functional purpose.

KEYWORDS: *Oil-Flour Compositions, Waterless Oils, Germ Product, Thermal Processing, Oil-Acid Content, Functional Properties, Biological Value.*

INTRODUCTION

The search for cost-effective technologies for the production of functional fatty products has shown the feasibility of using a finely dispersed wheat germ product for the preparation of various fat-rich composite mixtures. Wheat germ product has a high biological value, contains a significant amount of protein substances, essential amino acids (lysine), sugar, free lipids, including unsaturated fatty acids, vitamins E, B1, B2, PP, B6, etc., mineral elements - phosphorus, calcium, magnesium, potassium, iron, which determines the functionality of this product.

However, the direct use of the germ product itself is constrained by its instability during storage, even after production processing (cleaning, drying, grinding). Therefore, a certain interest is aroused by the possibility of its use as a flour component of fat-and-flour compositions, where the fat phase, especially if it is anhydrous, could have a certain preservative effect on the product during storage. Such fatty compositions can be used as special fatty products intended for baking functional baked goods.

We have previously investigated the possibility of using a finely dispersed wheat germ product (hereinafter, the germ product flour) to obtain low-fat emulsion fatty products such as margarines and spreads [1].

The expediency of using up to 10% flour of the germ product in the composition of emulsion fatty products was established, since a further increase in its dosage leads to undesirable changes in organoleptic and physicochemical parameters, as well as the microbiological purity of the product during storage under the influence of the aqueous phase.

When compiling functional anhydrous fatty compositions, the dosage of wheat germ product flour was increased from 10% to 50%. This contributes to an increase in the biological value of the compositions due to proteins, vitamins, micro- and macroelements of the embryo. However, there is another aspect, which is very important in determining the functionality of products using wheat germ, is the balance of the fatty acid composition according to the ratio of polyunsaturated fatty acids (PUFA) of the $\omega-6$ and $\omega-3$ families. The glycerides of wheat germ contain significant amounts of $\omega-3$ fatty acids necessary for human health, which are very little or practically absent in many widespread vegetable oils and fats [2].

Palm oil, salomas grade 1 according to TU Uz 86-1-97, mutton fat, cotton palmitin from re-esterified oil was used as anhydrous fats to obtain fatty compositions (Table 1). For mixed use, cottonseed oil was used.

The characteristics of the used flour of the wheat germ product are presented in Table 2.

From the data in Table 1, it follows that the fatty products used do not contain polyunsaturated fatty acids of the $\omega-3$ group. Meanwhile, as evidenced by the literature data, for the normal functioning of the body, especially the nervous and cardiovascular systems, a healthy person is recommended to regularly consume foods in which the ratio of PUFA $\omega-3$: $\omega-6$ is

1: 10, and for patients - 1: 5 [2];

TABLE 1 PHYSICAL AND CHEMICAL INDICATORS OF FATTY PRODUCTS

No	Name of the fatty product	Name of the fatty product									
		Mass fraction of fat, %	Acid number, mg KOH / g	Melting point of liquid metal, °C	Liquid solidification temperature, (+)°C	Iodine number, % J ₂	Fatty acid composition, %				
							C 16:0	C 18:0	C 18:1	C 18:2	others
1.	Palm oil	99,9	0,17	34,2	31,5	56,4	44,1	4,5	3,9	1,2	2,1
2.	Cotton palmitin from transesterified oil	99,9	0,30	29,0	10,0	92,0	2,9	2,8	2,1	4,6	0,7
3.	Refined cottonseed oil	99,2	0,20	–	1,0	109,1	2,5	1,7	1,9	5,3	–

4.	Salomas (solid 180 g / cm)	99,6	0,15	31,1	29,2	74,4	2 1, 2	1 2, 4	5 9, 7	5, 6	1,1
5.	Lamb fat	99,7	2,70	46,0	33,5	44,0	2 3, 7	1 9, 2	4 7, 2	2, 7	7,2

TABLE 2 CHEMICAL COMPOSITION AND QUALITY INDICATORS OF FLOUR FROM WHEAT GERM PRODUCT

Mass fraction,%								Organoleptic indicators	
m ois tur e	carbo hydra tes	prot eins	Fats	mineral substanc es	fiber	ω -6 fatty acids	ω -3 fatty acids	Colour	taste and smell
8, 4	25,0	32,3	11,2	5,3	2,5	48,6	9,1	Light cream	Sweetish, with a mild odor

TABLE 3: RATIO OF PUFA Ω -3: Ω -6 IN A MIXTURE OF FATTY PRODUCT (FF) WITH FLOUR WHEAT GERM PRODUCT (WFP)

No	Mass fraction in the fat mixture,%		Fat content of the mixture,%	The ratio of PUFA ω -3: ω -6 in the fat phase of the fat-and-flour mixture *					
	ZhP	MZP		<i>MZP</i> + <i>PCP</i>	<i>MZP</i> + <i>PM</i>	<i>MZP</i> + <i>BZh</i>	<i>MZP</i> + <i>XC</i>	<i>MZP</i> + <i>HM</i> + <i>BZh</i>	<i>MZP</i> + <i>XM</i> + <i>C</i>
1	90	10	91	1 : 46,8	1 : 14,5	1 : 7,9	1 : 10,5	1 : 23,2	1 : 14,7
2	80	20	82	1 : 23,8	1 : 9,5	1 : 6,5	1 : 7,7	1 : 13,3	1 : 9,7
3	70	30	73	1 : 16,2	1 : 7,8	1 : 6,0	1 : 6,7	1 : 10,0	1 : 7,9
4	60	40	64	1 : 12,3	1 : 7,0	1 : 5,8	1 : 6,3	1 : 8,4	1 : 7,0
5	50	50	55	1 : 10,0	1 : 6,5	1 : 5,7	1 : 6,0	1 : 7,4	1 : 6,5

* MZP + PCP - a mixture of flour of the germ product with interesterified cotton palmitin;

MZP + PM - a mixture of flour of the germ product with palm oil;

MZP + BZh - a mixture of flour of the germ product with lamb fat;

MZP + XC - a mixture of flour of the germ product with cotton fat;

MZP + HM + BZh - flour of the germ product with a mixture of cottonseed oil and lamb fat in a ratio of 1: 2;

MZP + XM + C - flour of the germ product with a mixture of cottonseed oil and selected fat mass in a ratio of 1:10.

In this regard, the ratio of PUFA ω -3: ω -6 was established by calculation for two-component mixtures of flour of the germ product with the selected fat products (Table 3).

The data in Table 3 show that mixing the flour of the germ product with fats contributes to the balance of the ratio of PUFA ω -3: ω -6 in the fat phase of the compositions to varying degrees, depending on the fatty acid composition of the fats used. However, it is easy to see that the required ratio of PUFA ω -3: ω -6 (\approx 1:10) is achieved mainly by mixing fats with 10-30% flour of wheat germ product. In this case, the only exception is a mixture with liquid transesterified cotton palmitin, where the ratio of PUFA ω -3: ω -6 = 1:10 can be achieved only after increasing the dosage of wheat germ product flour in the mixture to 50%.

It should be noted that mixing the flour of the germ product with liquid vegetable oils is impractical due to the sedimentation process during storage. In addition, for baking, it is advisable to use fats containing a certain amount of solid phase. At the same time, fatty foods such as lamb fat and many hydrogenated fats are high in saturated fatty acids, which is also undesirable from a nutritional science perspective.

As can be seen from the data in Table 3, the required ratios of PUFA ω -3: ω -6 (1: 7.4 - 1:10) were also obtained by mixing the flour of the germ product with a mixture of one part of cottonseed oil and two parts of lamb fat (in this case provides a more balanced fatty acid composition in terms of the content of saturated, mono - and polyenoic acids)

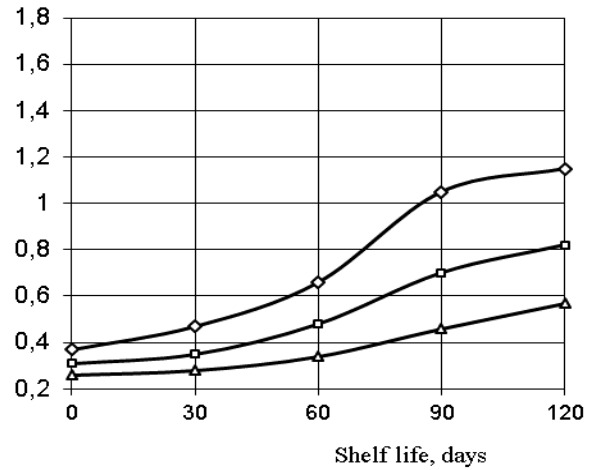
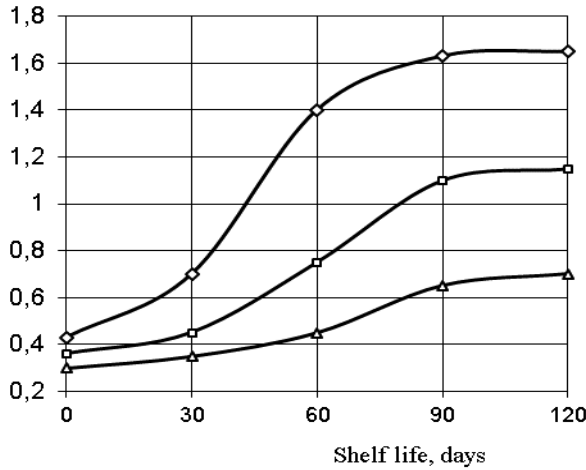
The most balanced in terms of the content of saturated, mono - and polyenoic fatty acids is a mixture of cottonseed oil and selected salomas in a ratio of 1:10. Based on the data in the table. 1 it can be determined that in such a mixture the ratio of saturated, mono - and polyene fatty acids is 33.3: 54.4: 10.3. According to the requirements of nutritional science, the balanced ratio of the above fatty acids should be equal to 30:60:10, respectively [2]. Therefore, as a fatty component, the use of mixtures of cottonseed oil with lamb fat or with solid edible lard seems to be the most expedient in the preparation of fat-and-flour compositions with wheat germ product flour.

As a result of the analysis of experimental data, it was found that when more than 50% of the flour of the germ product is included, the fatty compositions become more like dough than fat. In addition, with an increase in the proportion of flour and, accordingly, a decrease in the concentration of fat in the fat composition, its storage stability is significantly reduced.

The instability of the germ meal itself during storage predetermines the need for special technological measures to inactivate enzymes (primarily lipase and lipoxygenase), as well as to reduce the microbiological contamination of the product when composing fat-and-flour compositions, which will make it possible to obtain high-quality products with the recommended shelf life. In this regard, some of our experiments were carried out with heat treatment of fat compositions. In order not to significantly change the native properties of wheat germ flour during mixing, it is desirable to use a more gentle temperature regime; however, it is necessary to ensure sufficient storage stability. Therefore, the fat was melted before mixing and at a temperature of 100 ... 1050C for 20 ... 30 min was mixed with the germ flour.

Investigated the dynamics of the oxidation of lipid compounds in fatty compositions prepared without and with heat treatment, containing 10, 30 and 50% flour of wheat germ product.

The test samples were stored at a temperature of $20 \pm 10^\circ\text{C}$ for 120 days. After equal time intervals (30 days), samples of the fat compositions were taken and the indicators characterizing the degree of freshness of the products were determined, namely, the dynamics of changes in the acid and peroxide numbers of fats isolated from them (Figs. 1 and 2).

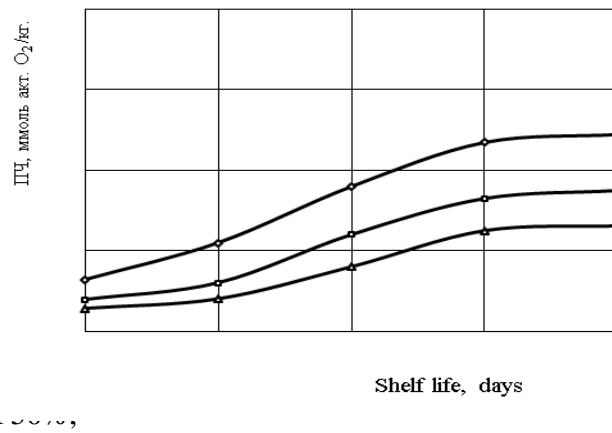
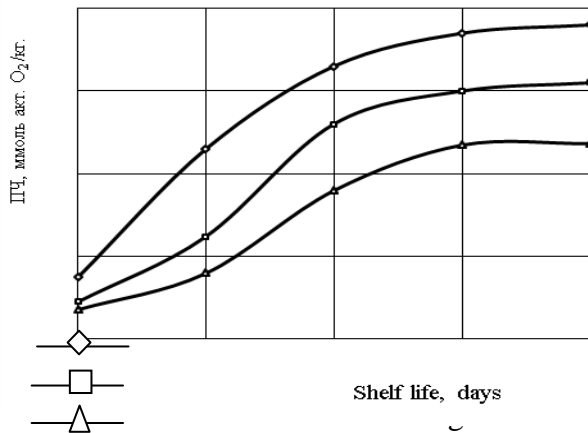


a

- Mixture with a content of wheat germ flour of 10%;
- Mixture with a content of wheat germ flour of 30%;
- Mixture with a content of wheat germ flour of 50%;

b

Rice 1. Change in the acid (CA) number of excreted fat Fat mixtures during storage:
A-mixtures prepared without heat treatment;
B-mixtures prepared with heat treatment.



Rice. 2. Change in the peroxide (PN) number of excreted fat

Fatty compositions during storage:
A-compositions prepared without heat treatment;
B-compositions prepared with heat treatment.

The results presented in the graphs (Fig. 1, 2) show that heat treatment in the preparation of the fat-and-flour composition can be used to suppress the enzymatic action of the enzymes of the flour component. This is evidenced by changes in the acid and peroxide numbers of the released fat during storage of the mixtures.

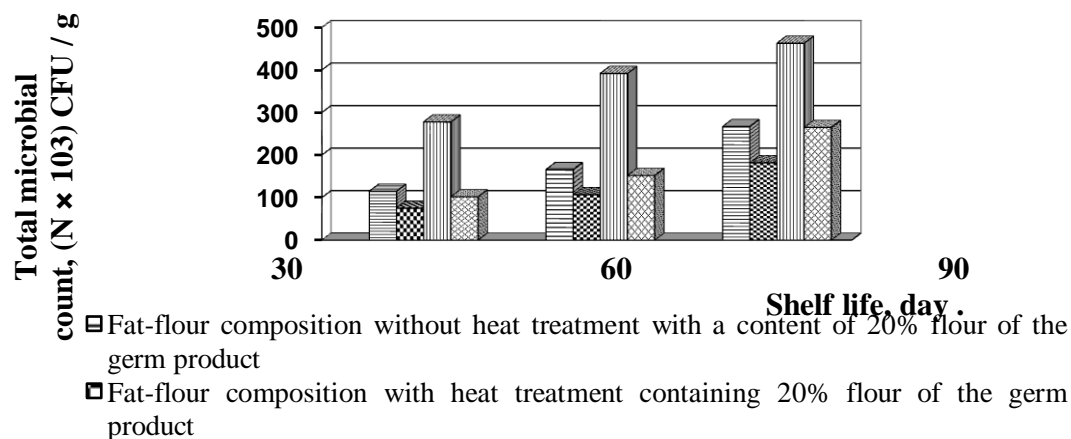
Since the flour component of the fat-and-flour mixture used, namely, the flour of the germ product of wheat, is naturally not an absolutely sterile product and is seeded with a specific microflora, represented mainly by epiphytic and field fungi, then, along with enzymes, this is the cause of spoilage of the product when storage, as well as a factor that reduces its nutritional and consumer value. Therefore, the microbiological contamination of the studied compositions was determined.

Determination of the total number of microorganisms was carried out by a standard method by inoculation on mesopotamia agar. *E. coli* bacteria were detected on Endo's medium (Levin's medium or bismuth-sulfite agar), yeast and fungi - on Sabouraud's medium. The samples under study were stored at a temperature of 5-10°C for 3 months. Their microbiological contamination and compliance with the requirements of SanPiN 0138-03 were checked monthly [3].

First of all, it should be noted that in the studied fat compositions after incubation for 2 months at a temperature of 37 °C on the Endo medium, no groups of *E. coli* bacteria were found, therefore, further inoculations were not performed on the Endo medium.

Inoculations on Sabouraud's medium for the detection of fungi and yeast and incubation at a temperature of 32°C for 48 (yeast) and 72 (fungi) hours showed that after 3 months of storage in all heat-treated samples and after 2 months in compositions without heat treatment with content of up to 30% flour component, they were not found. This indicates that a high concentration of anhydrous fat in the fat-and-butter composition, even without heat treatment, can have a sufficient preservative effect, and heat treatment contributes to better preservation of products during storage.

When sowing on mesopotamia agar, mainly small and medium colonies were revealed: monotonous, slimy, and superficial and, in the overwhelming majority, deep. Changes during storage of the total microbial number in fatty compositions containing 20 and 40% flour of wheat germ product prepared without heat treatment and with heat treatment are shown in Fig. 3.



Rice 3 the total microbial number of fatty mixtures during storage

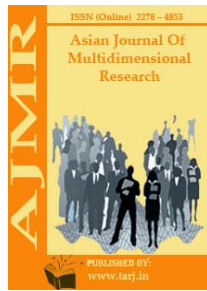
From the data in Fig. 3, it follows that during storage, the growth of the total number of microorganisms in fatty mixtures subjected to heat treatment is much less intense than in similar mixtures without heat treatment. It should be noted that the total microbial count in the treated samples with 40% germ meal is lower, despite the lower concentration of fat, than in untreated samples with 20% flour.

In general, microbiological studies have shown compliance with the requirements of SanPiN 0138-03 of heat-treated fat-and-flour mixtures even after 3-month storage, and without heat-treatment of fat-and-flour compositions containing up to 30% flour component - up to 2 months of storage.

Thus, the proposed method of using in the composition of fatty compositions for baking flour products directly a finely dispersed germ product, and not oil from it, will make it possible to use 100% of its botanical oil content and other biologically valuable components, reduce the prescription amount of special fatty products, stabilize the quality and increase resistance to spoilage of germ meal when stored as part of anhydrous fat, and also to reduce the cost of the final product.

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SHADOW ECONOMY IN THE ORBIT OF ECONOMIC SECURITY OF THE STATE

Dilshod Kamiljanovich Yakubov*

*Head of Department of the Academy of Public Administration under the President of the Republic of UZBEKISTAN

ABSTRACT

The article examines the influence of the shadow economy on the economic security of the state. The author studied the systemic features of the shadow economy, the priority of the positive or negative role of the shadow economy in the system of economic development, analyzed its impact on economic development and security of the state.

KEYWORDS: *Shadow Economy, Constructive and Destructive Features of The Shadow Economy, Economic Security, Threats To Economic Security.*

INTRODUCTION

It is known from the history, theory and practice of economic science that shadow economic activity took place in any historical periods of the life of societies, regardless of the existing socio-economic system of the state. At the same time, the strengthening of this phenomenon, its types and scales, as well as the degree of destructiveness and negative impact, directly depended on various crises observed in the country, or the socio-economic instability of the development of the state and society as a whole.

Having studied the methodological and theoretical provisions on the shadow economy in the system of socio-economic relations, the author of this article sets the task to analyze the influence of the shadow economy on the economic security of the state.

It is believed that the true significance and role of the shadow economy in our life was revealed to the world by the Peruvian economist and public figure Hernando de Soto, known for his research on the shadow economy and the role of standardization and formalization of property rights [1]. The presidents of the United States praised de Soto's scientific work. For example, Bill Clinton called him "the greatest living economist" [2], and George W. Bush stated that "de Soto's recommendations offer a clear and attractive opportunity to avoid economic stagnation" [3].

Nevertheless, in economic theory, the final understanding of the priority of the positive or negative role of the shadow economy in the system of economic development is still not considered to be established. If the uncontrollability of the shadow economy, its tax evasion is a problem for the state, then the creation and preservation of jobs and, therefore, the achievement of certain financial and social benefits are most often an effective means of preserving entrepreneurial activity and business, especially small business, which, being a social phenomenon, provides employment and self-employment of certain segments of the population, contributes to the effective implementation of entrepreneurial initiative and filling the budget, accelerates the introduction of technological innovations and innovations [4].

This duality in the nature of the shadow economy remains relevant and the need for a more detailed, more in-depth understanding of the essence of this phenomenon, the modern mechanisms of its formation, prosperity, as well as the most important thing - assessment and regulation. This issue is especially topical in the conditions of the modern market, global changes in our life associated with rapid technological development, digitalization of all spheres of life of the state and society.

MAIN PART

Definition of definition

The effectiveness of the study of this phenomenon largely depends on the correct definition of the shadow economy and its types. Thus, the Modern Economic Dictionary of 1997 gives the shadow economy the following definition: "a set of economic processes that are not advertised, hidden by their participants, are not controlled by the state and society, are not recorded by official state statistics. These are the processes of production, distribution, exchange, consumption of goods and services invisible to the naked eye, economic relations in which individuals and groups of people are interested. " At the same time, the shadow economy is divided into three sectors: a) criminal, forbidden, illegal; b) hidden, hidden in order to avoid taxes or the unwillingness of economic entities to make public their actions and income; c) informal, that is, not subject to accounting due to its individuality, personal or family character, lack of meters [5].

Other theorists, for example, the American scientist, philosopher and economist G. Sennholz, divided the shadow economy into only two sectors: hidden (underground) and criminal. In his opinion, illegal acts committed by criminals in the form of fraud, racketeering, and bribery cause enormous harm to society and the state. Unlike the criminal economy, the hidden economy includes the activities of the population, only hidden from the state. Typically, this applies to employers and workers who provide services without a license or permit [6].

A group of Russian scientists [7], subjecting the shadow economy to a system-structural analysis, note its systemic properties such as universality, integrity, balance with the external environment, hierarchy, the ability to self-organize and continuous development, purposefulness and the presence of universal mechanisms of functioning, as well as two opposite principles in the shadow economy - constructive and destructive.

The most popular is the structuring of the shadow economy, proposed by F. Schneider and D. Enst (table 1) [8].

TABLE 1 CLASSIFICATION OF SHADOW ECONOMIC ACTIVITY

Kind of activity	Cash transactions	Non-cash transactions
<i>Illegal activity (criminal economy)</i>	<ul style="list-style-type: none"> - trade in stolen goods - drug trade and production - prostitution - gambling - smuggling - fraud 	<ul style="list-style-type: none"> - barter transactions with drugs, stolen or smuggled goods - production or cultivation of narcotic raw materials for own use - theft for own needs
<i>Legal activity (hidden economy)</i>	<ul style="list-style-type: none"> - undeclared income from self-employment - wages and assets earned from unregistered work activities related to legal services and goods 	<ul style="list-style-type: none"> - barter transactions with legal services and goods

F. Schneider and D. Enst also cite the reasons why the legal production of goods and services is deliberately hidden from public authorities and highlight the following reasons for the participation of residents in the shadow economy:

- Avoidance of payment of income, value added tax or other taxes;
- Avoidance of payment of social insurance contributions;
- Avoiding the need to comply with certain legal labor market standards such as minimum wages, maximum working hours and safety standards;
- Avoidance of certain administrative procedures, such as filling out statistical questionnaires or other administrative forms [8].

Thus, the shadow economy is not state-controlled reproduction, distribution, consumption of goods and services, which are not taken into account anywhere, are not regulated by the relevant normative legal acts of economic activity and rules of economic management. This type of economy exclusively implies the implementation of the activities of economic entities outside the control of the state.

Moreover, experts emphasize the negative impact of the shadow economy “removing a significant part of the factors of production from legal production, reducing efficiency and hindering expanded reproduction and socio-economic development” [9].

Consequently, due to the implementation of economic activity outside the control and accounting of the state, it is not taxed in any way. Naturally, this kind of economy consists of illegal, criminal elements. In this regard, the shadow economy is also called “informal” [10].

Shadow Economy and Economic Security

It is important to emphasize that a specific quantitative indicator of the volume of the shadow economy, which is largely dependent on indirect data, has not yet been developed. Even in the presence of data on identified financial crimes, one can only assert a conditional share of the amount of criminalization, given the latent nature of economic crimes.

However, the level of the shadow economy is being measured as a percentage of the official GDP of the state. Globally, the share of the shadow economy is estimated at 5-10% of the gross domestic product [11]. And in the most developed countries this figure is at least 7.5% of GDP [12].

According to research data of international organizations for 2019, the volume of the shadow economy of the Republic of Uzbekistan varies between 40% and 50% in relation to GDP. The international non-governmental non-profit organization "BUYUK KELAJAK" has similar results in 2019 - up to 50% of GDP with annual losses in the region of 16 and 17 billion US dollars. This indicator puts Uzbekistan on the 152nd position among 159 countries of the world according to the IMF rating [12].

According to researchers, the size of the shadow sphere is an indicator of the level of ineffective economic policy of state bodies and excessive regulation [13]. And the emergence and development of shadow activity in the country is the response of citizens who are overly burdened by the economic policy of the state.

It is also necessary to highlight the special role of public administration in solving a number of issues such as ensuring economic security, economic development, the state of protection of the population, etc. by applying the functions of systemic management in the national interest. At the same time, one of the main tasks of the state is to control to prevent and minimize the level of the shadow sphere within the country.

Undoubtedly, the shadow economy requires active counteraction by the state in order to prevent the involvement of people in illegal and criminal actions that destabilize the system of financial and economic relations, lead to the development of organized crime and corruption in the economy, which in turn is a serious threat to the economic security of the state.

In view of such distinctive properties of the shadow economy as uncontrollability and secrecy, scientific sources have identified four forms that characterize illegal economic actions [11]:

- a) **The Illegal Economy** means the provision of services and the production of goods that are prosecuted by law as a crime. It can be trade in arms, drugs, etc.;
- b) **The Undeclared Economy** means deliberate concealment by a person who has incorrectly indicated income and property in order to circumvent or evade tax obligations;
- c) **The unregistered economy** provides for the maintenance of hidden accounting and financial accounting;
- d) **The Informal Economy**, which is aimed at minimizing costs in the form of organizing clandestine production and hiring a person to work without a contract.

According to the data of the Republican Scientific Center for Employment of the Population and Labor Protection of the Ministry of Employment and Labor Relations of the Republic of Uzbekistan, today the country attracts 5.62 million people to the informal sector of the economy [14];

It is quite obvious that the spread of shadow activity in any country is influenced by the creation of single authorized companies that are competent to perform vital functions. This leads to the dependence of the subjects of market relations on the authorities or civil servants, and their further actions only in their personal interests are reflected in the economic security of the state.

The following basic elements of the shadow economy can be added to the list of threats to the economic security of the state:

Firstly, avoidance of payments of various government payments by individuals, mainly associated with the low level of income of the population;

Secondly, non-payment of taxes, duties, fees and other types of contributions by legal entities due to the impotence of tax administration;

Thirdly, the desire of market participants to carry out financial and economic activities outside the current laws;

Fourthly, the prevalence of imbalances in the national economy due to the excessive dominance of strategic sectors over the social spheres of the economy.

The above is directly reflected in the potential of the economic security of the state, which leads to negative consequences of the following nature: deformation of the fiscal and monetary systems; intensifying the criminalization of the economic sphere; destabilization of investment and production processes, etc.

In addition, it is necessary to list a number of specific features of the shadow economy that negatively affect the economic security of the state. It:

- An obstacle to stable economic growth and the development of the country's competitive advantages;
- Creating conditions for the development of criminal groups and organized crime;
- Discrediting the established laws and regulations, which are designated as a tool for regulating the life of society and the state?
- A decrease in people's confidence in the authorities, which destroys the state system of equitable distribution of national wealth;
- A decrease in the investment attractiveness of the state, which directly worsens the business climate and contributes to a drop in the volume of production;
- Promoting the growth of poverty among the bulk of the population, which leads to a significant differentiation of people's incomes.

The logic of the process of violation of the system of economic security by the shadow economy can be revealed through such indicators of economic security as: the volume of GDP, investment and production; the level of scientific and technical potential, the level of inflation, the level of ecology, the level of development of the small business sector, etc.

The most important reasons for the growth of the negative influence of the shadow economy on the level of economic security of the state include: *a)* imperfection of legislation, which may not meet modern requirements or does not counteract threats and challenges; *b)* social inequality, leading to a sharp stratification of the population, a significant increase in the number of citizens living below the poverty line, which sharply increases the number of illegally employed; *c)* social and psychological consequences of excessive tax burden on economic entities that are not ready to withdraw their activities from the shadow economy.

According to statistics, as of September 2020, out of 19.12 million people in the labor force in the Republic of Uzbekistan, only 5.67 million people were employed in the official sector of

Uzbekistan, that is, 29.7%, and income tax payers by 1 October 2020 is 4.26 million people or 22.3% of the workforce. At the same time, a significant part of official employment is provided by the public sector: 2.5 million people [14].

According to the World Bank, in 2019, the total number of people employed in Uzbekistan was 13.2 million. Of these, 7.9 million (59.8%) were informally employed, and 5.3 million (40.2%) were formally employed [12].

Negative factors of the shadow economy and their impact on the economic security of the state are also manifested in the low level of scientific and technical potential, which is expressed in the deterioration of industrial fixed assets and the lack of competitiveness of the production sector; a high level of capital flight abroad due to the underdevelopment of the investment infrastructure and the inaccessibility of private foreign investment, due to the development of shadow economic relations; a decrease in the level of real purchasing power of the population due to the growth of inflation in the country.

Despite the high degree of destructiveness of the shadow economy, experts note its conditionally positive aspects. According to scientific sources, there is a favorable size of the shadow economy - About 14-15% of the annual GDP. What are the advantages of a shadow economy that does not go beyond the optimal framework? [15].

Assistance to the development of the official economy from the side of the shadow economy was noted by the Swiss Economist D. Kassel, emphasizing three positive functions:

- 1) Economic lubrication - the implementation of the transition of resources between the legal and illegal sectors of the economy;
- 2) Social shock absorber - covering unwanted social costs.
- 3) An integrated regulator - the use of funds of illegal business for the purchase of goods and services for the benefit of the national interests of the state.

Since the main threat factor is material harm caused by the shadow economy to society and the state, it is important to analyze the assessment of the influence of the shadow economy on the economic security of the state.

For instance, in the Republic of Belarus there are a number of relevant methods for controlling the level of the shadow economy [15] within the country, such as: reducing the cash turnover of funds; eradication of social dependency among the population; fight against “wages in envelopes”; mandatory declaration of family income.

In the Republic of Uzbekistan, the policy pursued by the head of state Sh. Mirziyoyev can be attributed to the pronounced measures to counter the shadow economy [16]. These are: **A)** striving to increase the middle class of the population by involving them in entrepreneurial activity; **B)** improvement of laws in order to increase economic potential based on the competitive advantages of the state; **C)** combating corruption at all levels of the public administration system, focusing on its digitalization.

CONCLUSION

As a result of the conducted studies of the influence of the shadow economy on the level of economic security of the state, it was revealed that the shadow economy has a negative impact on it to a large extent.

A distinctive feature of the shadow economy is its close intertwining with the formal economy due to the presence of identical sets of mechanisms such as: pricing rules, investment, methods of negotiating and observing contracts, etc.

The shadow economy adversely affects the development of society and this is reflected in: *a)* lower living standards and incomes of the population; *b)* labor productivity; *c)* a slowdown in the pace of scientific and technological progress; *d)* inefficiency of the tax system; *e)* stagnation of other important economic institutions.

Taking into consideration the above, the threats to the economic security of the shadow economy include:

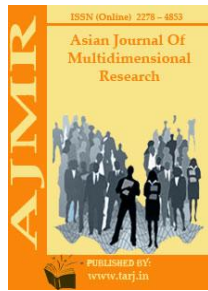
- Suppression of the development of medium and small businesses;
- An obstacle to the development of normal entrepreneurship;
- slowing down the development of production;
- Decrease in the level of competition;
- Aggravation of economic problems;
- depriving the state budget of a huge part of its revenues.

In this context, it seems that solving the problem of the shadow economy requires the government to develop a wide range of measures, including political ones. It is also necessary to improve market mechanisms for stimulating domestic production and business infrastructure.

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NATURAL INTERSUBJECTSFORMATION OF ECOLOGICAL THINKING IN SCHOOL PUPILS

Hushbak Babanazarovich Narbutaev*

*Doctor of Pedagogical Sciences,
Termez State University,
UZBEKISTAN

ABSTRACT

This article states that on the basis of the development of ecological thinking in the synchronous and asynchronous connection of biology with the natural subjects of pupils, the following forms are used: a lesson, extracurricular work, and when teaching biology through ecological teaching, teaching chemistry, physics on excursions and extracurricular activities, with synchronous and asynchronous teaching of biology in connection with other subjects the ability to analyze from the side of the learning possibilities of the facts and skills of the events taking place, to be able to create mechanisms of connections in the study of processes, also through the early acquired knowledge, skills, abilities and competences in new conditions, the conscious assimilation of educational materials, where everything the above aspects are presented using modern educational technologies, the privilege of which is the organic connection and integration content associated with the study of the relationship between man and nature.

KEYWORDS: *Integration, Biology, Ecological Thinking, Knowledge, Formation, Improvement, School, Pupils, Form, Method, Means, Lesson, Extracurricular, Skill, Qualification, Society, Synchronous, Asynchronous, Nature, Environment.*

INTRODUCTION

The interdisciplinary teaching of biology to secondary school pupils was approached in accordance with all applicable laws of education in the study of the state of development of pupils' ecological thinking. It has been didactically substantiated that the phenomena of learning, teaching and learning are interrelated and content-oriented activities.

It is aimed at shaping the content of general education, humanizing the teaching of all school subjects, ensuring the strengthening of socio-economic aspects.

General sciences such as biology, chemistry, physics are aimed at vividly reflecting the deep human nature of our society. It consists of a combination of one and the adjacent disciplines, major ideas, factors in one academic discipline.

The content of general education is aimed at the comprehensive spiritual development of pupils, the development of different thinking in them. The study of each subject allows the pupil to create a mental focus that activates the process of understanding the material, remembering it, activating sensitivity, developing thinking, speech and imagination. It is especially important to develop types of thinking that are inextricably linked to each other in the process of learning.

The use of interdisciplinary communication mechanisms is of great practical importance in the development of independent thinking skills in pupils. By summarizing the ideas and knowledge generated in the process of studying biology, pupils develop certain skills and competencies on the basis of interdisciplinary connections in the natural sciences.

Therefore, the phenomenon of interdisciplinary connection in the learning process is a complex and multifaceted didactic process. The philosophical basis of interdisciplinary connections, the interconnected development of sciences and scientific concepts has been revealed by eminent scholars. They claimed that the laws of interdisciplinary communication in the learning process is a leading didactic phenomenon based on methodological-didactic principles.

Interdisciplinary connection is a didactic phenomenon that improves the educational process and the didactic condition in all its forms of teaching.

In ensuring the interdisciplinary connection during the educational process, the materials of the disciplines close to each other in the content are coordinated with the utmost demand; attempts are made to increase the scientific and practical level of the studied material; interconnected knowledge is rounded up as a didactic unit; ways to absorb stable and structured knowledge in the minds of pupils are shown; tools will be identified to expand opportunities for the acquisition of generalized knowledge.

The following results can be achieved in the interdisciplinary teaching of biology on the basis of improving pupils' knowledge of the ecological content:

- Curricula and study programs are optimized in education;
- Pupils develop the skills of independent and logical thinking, abstract thinking;
- Pupils develop integrated concepts and perceptions of nature, society and science, life skills.

In particular, the problem of harmonization in the content of education is also an area of integration.

He conceptsteaching generalization is the process of generalizing the formation of knowledge, concepts, skills and competencies in education and bringing it into the form of a law or rule [7].

It is necessary to rely on the essence of the interdependence of all academic disciplines through the inculcation of natural knowledge in schoolchildren, in particular, to identify new aspects of the teaching of natural sciences. When interdisciplinary connections are made in the learning process, pupils are provided with interconnected knowledge and concepts.

Hence, interdisciplinary relevance is necessary to fully disclose the content of the study topics. Moreover, interdisciplinary communication allows you to study the content of the course topics, to activate the following processes in mastering the important rules:

- avoiding the of a subjective approach to determining the state of interdisciplinary relationships in the study of educational topics;
- To attempt pupils' attention to the main aspects of academic disciplines, which are of paramount importance in revealing important ideas of science;
- Achieving mutual learning of academic disciplines with the help of various didactic tools;
- Establishment of creative cooperation between teachers and pupils;
- Development of pupils' scientific outlook on the basis of modern requirements in harmony with social life, through the connection of biology with the disciplines of the natural sciences.

The lesson - is the main form of teaching biology, its structure, organization, in which the issues of organization, management and activation of pupils' cognitive activity are the main problems of biology teaching methods. The system of teaching provides educational continuity in accordance with the requirements of the curriculum, expands the scientific outlook of pupils through the effective use of teaching methods and tools, the development of environmental thinking, the formation of educational content and its components, inculcating the national idea in their minds.

In the biology curriculum, the content of education is given taking into account the age and psychological characteristics of pupils, knowledge resources. The content of biological sciences is divided into separate parts in a logical sequence - chapters, topics. As the study of the content of each topic is made in the lessons, the lessons also form a specific system and are logically connected.

Teaching in the classroom is organized on the basis of a curriculum common to all pupils, the teacher carries out pedagogical activities aimed at organizing, managing and activating pupils' learning activities in accordance with the content of the studied topic, educational, pedagogical and developmental goals. Hence, the activity of pupils in the classroom is their pedagogical activity, and the activity of the teacher is a pedagogical activity aimed at organizing, managing and activating this activity. Learning objectives can be achieved only when the learning activities of pupils in the classroom are organized in accordance with the pedagogical activities of the teacher.

Each lesson contributes to the achievement of common goals and objectives of teaching biology through the acquisition of knowledge, skills and abilities of pupils on the subject, broadening their scientific outlook, intellectual development, personal development, the development of ecological thinking.

The following requirements were set for the teaching of biology in synchronous and asynchronous connection with the natural sciences:

- Clearly define the educational goals of each lesson and clearly define its place in the system of lessons;
- Identify ways to develop environmental thinking on the basis of general and specific biological concepts, skills and competencies developed in the lesson;
- Activation of pupil cognitive activity by identifying and combining effective teaching methods, tools, methods of control and stimulation of knowledge in order to achieve the goals of each stage of the lesson;

- To set clear educational goals, taking into account the knowledge acquired by pupils, the expansion of the scientific worldpoint of the subject, the possibility of spiritual, moral, intellectual, hygienic, physical, emotion, economic education, aesthetic sense, diligence, ecological culture;
- Skills and competencies for independent acquisition of knowledge by pupils, meeting the need for simultaneous and asynchronous teaching of biology with the natural sciences, the development of interest, encouragement of creative activity and initiative in their activities;
- Development of a scientifically-methodical design of the lesson on the basis of the thematic plan;
- Improvement of handouts and didactic materials on environmental issues, educational tasks for monitoring and evaluation of pupils' knowledge, a set of differential tasks;
- Creating a technological map of the lesson to ensure the efficient use of time.

In the teaching of biology in synchronous and asynchronous connection with the natural sciences, the lessons are systematically applied in the development of pupils' ecological thinking. Therefore, the teacher must know the types and types of lessons, the specifics of the pedagogical technologies used in them.

Modern educational technologies used in the teaching of biology in synchronous and asynchronous connection with the natural sciences were selected according to the form of organization of pupils' learning activities, which are organized on the basis of environmental questions:

1. The use of conference, creative play, game exercises of didactic game technology in cases where learning tasks of ecological content are of a reproductive and productive nature.
2. The use of brainstorming, conflict of ideas of problem-based learning technology in cases where the learning tasks of environmental content are productive and creative in nature.
3. The use of individual modul curricula of modul educational technology in cases where the environmental tasks are of a reproductive, productive and partially exploratory nature.
4. The use of methods of collaborative learning technology, such as team teaching, in cases where environmental learning tasks are of a reproductive, productive, partially exploratory and practical nature.

Homework is inextricably linked with the lesson, which is a logical continuation of the content learned in the lesson and a factor in pupils' independent learning.

According to the teacher's requirement and instructions, pupils carry out simple experiments, make observations in nature, study additional literature, prepare lectures or abstracts on specific topics, collect collections. All pupils prepare to master the methods of cognitive activity by completing learning tasks.

In the lesson, the teacher intends to teach pupils through a combination of educational content, teaching methods and tools that prepare the ground for the development of ecological thinking in the interdisciplinary nature.

But, not all issues can be studied in the classroom, for example, extracurricular activities are also used in experiments that require long-term observation [8].

In the teaching of biology synchronously and asynchronously with the natural sciences, there is a constant consistency, interdependence and interdependence between the above-mentioned forms of developing pupils' environmental thinking: lessons, extracurricular activities, extracurricular activities, which ensure the integrity of the educational process.

In order to achieve the goals and objectives of teaching interdisciplinary teaching of biology in order to be effective, the teacher must understand the general and specific goals of the forms of teaching and develop an annual future plan in a way that combines them.

In science, the process of interdisciplinary synthesis of new knowledge is very slow, sometimes it spans a period of several decades. In the learning process, the teacher will have to "bring" the student to a subjective new knowledge based on previously acquired knowledge in various disciplines in one or more sessions or even a few minutes. That is, not to give knowledge in a ready state, but to create the appropriate conditions for their synthesis. One of the technological ways to accomplish this task is to transfer knowledge from one field to another, which is the main mechanism for establishing interdisciplinary links. It should be mentioned that any transfer of knowledge does not lead to the synthesis of subjective new knowledge. For that, this knowledge must be inverted.

The conditions for the logical development of the curriculum in the interrelated are:

- To establish connections between the objects considered in different educational disciplines;
- To establish the connection between related laws and theories;
- To establish a link between research methods and pupils' practical activities;
- The organization of the relationship between psychological, pedagogical and philosophical knowledge, as well as methodological methods and techniques of education.

In particular, in the process of understanding science, the methodologies of social-humanistic, natural-scientific, technical knowledge are interrelated. It is on the basis of integration that the natural sciences appear in the solution of current problems of scientific and technical progress in the study of human activity, in the instructions of the biocosm. Such differences are reflected in changing attitudes and in the general cultural knowledge of all school requirements.

Integration turns out to be the main mechanism of humanization of the content of natural-scientific education. Nowadays, evaluating the importance of natural-scientific education, it can be concluded that it encourages the coexistence of natural-scientific truth and humanistic ideals [3].

The problem of developing ecological thinking in pupils in the teaching of biology synchronously and asynchronously with the natural sciences is important and relevant both for theory and practice. Because it assumes the main task of integrating other types of knowledge. Such integrated sciences involve the introduction of a number of socio-economic, ethical-aesthetic ideas and concepts necessary for understanding the unity of nature and society.

Acquaintance with foreign experience shows that integrated sciences, which are the basis for the development of knowledge about nature and society, are included in the curricula of many countries. That suggests that integrated disciplines with an environmental focus are a key tool in shaping pupils' environmental responsibility in the world community.

The question may arise - How is the synthesis of subjective new knowledge in the integrated study of academic disciplines?

In didactics, different forms of integration are proposed, such as combining teaching materials related to different disciplines into one lesson.

Hence, in the process of teaching biology synchronously and asynchronously with the natural sciences, the selection of materials on the content of the development of ecological thinking in pupils allows to ensure interdisciplinary connection, study the content of lessons, highlight the important rules and activate the following processes:

- To draw pupils' attention to the main aspects of academic disciplines, which are of paramount importance in revealing important ideas of science;
- the implementation of organizational work on the use of interdisciplinary communication in the educational process step-by-step, using various types of didactic tools to effectively establish interdisciplinary communication in the multifaceted learning process, constantly expanding the scope of creative initiative and independence of learning activities, complicating comprehension;
- Achieving mutual learning of academic disciplines with the help of various didactic tools;
- Creating creative collaboration between teachers and pupils.

Thus, in today's education system, the knowledge of interdisciplinary connections in pupils is realized through the introduction of information technology. It will allow us to take large-scale measures to create all the necessary conditions for the upbringing of a physically, spiritually healthy, harmoniously developed generation capable of taking responsibility for the future of our country.

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The problem of developing ecological thinking in pupils in the teaching of biology synchronously and asynchronously with the natural sciences is important and relevant both for theory and practice. Because it includes the main task of integrating other types of knowledge. Such integrated sciences involve the introduction of a number of socio-economic, ethical-aesthetic ideas and concepts necessary for understanding the unity of nature and society.

In particular, through the organization of integrated lessons it is possible to discuss with pupils, to organize inter-class competitions, to organize questions and answers. The main purpose of the use of such modern types of lessons is to activate pupils in the learning process, to achieve a high level of mastery of educational material.

That technology teaches pupils to imagine the world differently, to connect practice with life, not to memorize theoretical rules verbatim, to understand the harmony of the individual and society, to achieve diversity of ideas, non-standard thinking, as well as to understand ways of self-development.

Indeed, the completed twentieth century was a century of scientific and technological advances. Along with the use of modern scientific and technological advances, the unfavorable environmental situation has created a global environmental threat in terms of coverage. The causes of environmental hazards the coordination of the relationship between nature, society,

people and technology and the prevention of environmental hazards has become a major problem today. This unfavorable environmental situation is an important factor for man, that is, it negatively affects his health. In this regard, the global and regional environmental threat, its causes, the coordination of relations between man and nature, society and nature, the prevention of environmental catastrophe is a topical issue today [5].

Human activity and life are closely connected with nature, the events and processes that take place in it. He is always under the influence of nature and receives useful things from it, so it is impossible to separate human from nature [4].

At a time when science and technology are evolving and people's impact on the environment is increasing, the issue of the ecological situation remains the most pressing problem [2]. Human rude interference in natural processes has negative consequences for the entire world fauna and flora. The study of these changes in nature, related to plants, animals and human life, is one of the most pressing issues today.

Ecological education is one of the main problems of our time, as well as the protection of nature, aimed at instilling in people a love for nature and the environment, the formation of thrifty features. In the process of environmental education, pupils are taught to conserve natural resources, to protect nature [10].

The use of issues in the context of the ecology of the country by linking biology with the natural sciences is a requirement of today because:

- In the teaching of biology synchronously and asynchronously with the natural sciences, environmental issues are often encountered in the daily lives of pupils, that is, familiar to them;
 - Pupils are interested in environmental issues in the teaching of biology in synchronous and asynchronous connection with the natural sciences;
 - In the teaching of biology in synchronous and asynchronous connection with the natural sciences, there is no need for complex mathematical calculations for the selection, construction and solution of environmental problems;
 - Increases the observation of the selection, formulation and solution of environmental issues in the teaching of biology in synchronous and asynchronous connection with the natural sciences.
- The main purpose of environmental education is to increase the environmental literacy and culture of society, as well as to protect the components of nature through the efforts of ecologically cultured, educated people to protect nature, keep it clean, love animals, birds and plants.

Ecological knowledge-is the study of the structure, development, transformation of living things, the state of living things on earth, their relationship with each other and the environment, the quantity and quality of natural resources, their diversity and ways of conservation and efficient use [9].

Nowadays, the issue of forming a humane attitude towards nature is facing young people, which means that teachers in their work teach pupils about the laws of nature, human and nature, their relationship, the preservation of natural balance and ecological culture, as well as pupils , among them will have to carefully plan and carry out educational work on environmental issues [6].

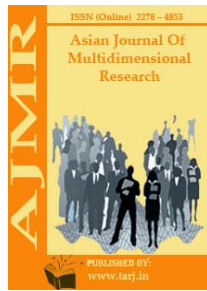
Research should start with environmental issues, first local and then global.

If schoolchildren understand the causes of ecological crises, the concept of "ecological crisis" will disappear, and they will develop the skills of ecological consciousness, ecological thinking, and patriotism, qualities such as conscientiousness [1].

The materials studied in the ecological education of schoolchildren play an important role in the process of direct acquaintance with nature. Nature is made up of the material world that surrounds human in various forms. The goal of the interdisciplinary explanation of environmental education to schoolchildren is to teach them to know and care for nature, environmental education - the formation of interdisciplinary theoretical knowledge, practical skills and competencies in education.

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THE ESSENCE AND ANALYSIS OF THE CONTENT OF THE WORKS OF FRANZ PETER SCHUBERT

Ibragimov Abdupatto Ahmadjonovich*

*Department of Music Education,
Namangan State University, UZBEKISTAN

ABSTRACT

When it comes to the creative legacy of Franz Peter Schubert, his song genre is usually always different. Schubert wrote more than six hundred songs. This is not in vain, because it is the vocal miniature that has become one of the most popular genres of romantic composers. It was here that Schubert was able to fully reveal the main theme of the romantic direction in art - the rich inner world of the protagonist with his feelings and experiences.

KEYWORDS: *Miniature, Impromptu, Musical Moment, Zingshpil, Piano, Voice, Song, Work, Landscape, Composer.*

INTRODUCTION

There are talented people in the world who are successful and well-known in some fields. There are many such talented people among the composers, in fact each of them is talented in his own style. Franz Peter Schubert was born in 1797 on the outskirts of Vienna. His family was large, so the parents focused mainly on young children. But from an early age, Schubert demonstrated his musical ability. He had a unique musical ability very early on. Seeing them, his father and brother Ignaz started training with him. Ignaz taught him to play the piano and his father taught him the violin. After a while, the boy became a full member of the family string quartet, in which he confidently performed the viola part. It soon became clear that France needed more professional music lessons. Thus, music lessons with a gifted child were entrusted to Lichtental Church Regent Michael Holzer.[1]

The teacher was impressed by his student's extraordinary musical skills. Also, Franz had a beautiful voice. At the age of eleven, he performed solo parts in the church choir, as well as solo roles in the church orchestra, including the violin. The father was very pleased with his son's success. Schubert submitted his first music to the People's Court in 1814, when he was only 17 years old. His style was reminiscent of critics of earlier authors, so the first works were less recognized in France. The fame of the future composer suddenly appeared in 1816, when the ballad "King of the Forest", which is still popular on the theater and dance stages, was released.

Later, his career took off, the young musician gained experience, and modern critics often emphasize the “Beautiful Mill” and “Winter Road” cycles.

Many of Schubert’s music of this period became world famous, for example: “Serenade” (“Swan Song” collection), “Shelter”, “By the Sea”. A contemporary of the great Austrian composer Franz Schubert Beethoven. was. He lived only thirty-one years and died while his creative work was flourishing. The constant failures, need and helplessness of his life exhausted the composer physically and mentally and led to his untimely death. None of Schubert's nine symphonies were performed during the composer's lifetime. His operas did not see the light of day. Only two hundred of the more than six hundred songs and only two of the more than twenty sonatas were published. Many of Schubert's works would have disappeared without the efforts and dedication of those who valued Schubert's music, such as composers R. Schumann and I. Brahms. An open-minded, cheerful, and extremely humble man by nature, Schubert created bright, charming, captivating pieces of music. But his latest works are full of sadness, pain, depression and tragic mood. The reason for this was not only the failures in the personal life of the composer, but also in the socio-political environment of the time. Beethoven's fiery music was inspired by the ideas of the Great French Revolution. The heyday of Schubert's work dates back to the 1920s, a time when all revolutionary, progressive ideas and thoughts were suppressed. It was forbidden to talk about freedom, brotherhood and equality. Such injustices, barriers, and restrictions caused great mental anguish to artists like Schubert.

Their dissatisfaction and dissatisfaction with the socio-political situation was reflected in art, and a new trend - romanticism - was born. Schubert was one of the first representatives of romanticism in the art of music. He used all his talent to show the rich inner world of the “little man”, to sing his most delicate feelings. Constant hardships, failures, and needs did not distract him from his relentless creativity. “I write music every morning. As soon as I finish one work, I start another, ”said the composer. He would finish writing his works very quickly, and he could hardly put them down on paper because his musical ideas were constantly being born. If he ran out of notes, he would write on different pieces of paper. If the work was not of perfect quality, the composer worked on it until he was satisfied. It is known that in some poems Schubert wrote seven versions of the song. Schubert has written many great works in all genres. From vocal and piano miniatures to major symphonies, he has demonstrated his new, original and unique style in all genres. In these works, the richness and diversity, beauty and sophistication of the means of expression, primarily melody, rhythm and harmony, fascinate the listener. Schubert's work is associated with folk music, Viennese life music. The composer was deeply influenced by the melodies and songs of different peoples living in this city. Although Schubert rarely used them in his works, he was inspired by folk melodies and songs. Schubert was the founder of genres such as impromptu for piano, musical moment, series of songs, lyrical-dramatic symphony, which paved the way for their further development. No matter what genre he created, in both the genres he created and in the traditional genres, he showed himself to be a composer of a new era - the era of Romanticism. His new romantic style later developed in the works of Schumann, Mendelssohn, List, and other composers. The main works created by Schubert are: more than 600 songs, 9 symphonies, 4 operas, 4 bells, 22 string quartets, quintet "Trout", 22 sonatas for piano, impromptu, musical moments, more than 100 Works for choir and vocal ensemble are available.[2]

Song is one of Schubert's favorite genres, and he wrote songs throughout his career. They played a key role in Schubert's work. There are more than 600 of them. The innovations that the

composer brought to the art of music were reflected in his wonderful songs. This news was related to the changes that took place in the life of the society at that time. The protagonist of Beethoven's works, the man who fought for happiness and well-being, was replaced by Schubert's hero, a simple and humble man. She wants to be happy in her personal life. But that doesn't happen to him. Not all of his dreams will come true. His only true friend is nature. Only nature reveals all its thoughts and secrets. That is why the images of rivers, forests, flowers and birds are always present in Schubert's songs. They are always with the hero of the song, sharing his sorrows and joys. The melodies in Schubert's songs have their own characteristics. There are a lot of sharp, declamatory melodies. The composer often refused to write beautiful melodies in order to make the expression more realistic. The piano part also plays a very important role in Schubert's songs.

Piano performance is an important means of expression in the depiction of scenes and images in songs. Among Schubert's songs, the songs written by the great German poet Goethe are very popular. [3].

The song "Margarita at the Wheel" was written in 1814. The protagonist of the song remembers her lover, who was left alone by a sad girl in a sad mood. The state of mind of a girl burned in the fire of love is skillfully described. The melody of the song is sad and lyrical. The piano part depicts the wheel spinning in a rhythm. Another song in Goethe's poem, The King of the Forest, was written in 1815. This complex work is not a song, but a dramatic scene with three people. They are a father riding a horse in the woods in the middle of the night, his young sick son, and the king of the forest who looks like this distracted sick child. Each of them is described by the composer with separate melodies. There are sounds of pain, fear and supplication in the child's song. His father calms him down. The King of the Forest Party is gentle and kind. He encourages the boy to stay in his wonderful kingdom. The instrument that connects these musical characteristics is the piano part, which depicts a terrifying night scene and a horse galloping fast. The work ends tragically.

A sick child dies at the hands of his father. There is also a narrator party in the play. Such a story is called a ballad, a dramatic work that is inextricably linked to the development of the musical plot. In the process of continuous development, the contrasting images of different characters are characteristic of the ballad genre. The ballad is a literary genre that tells the story of a hero's courage. Schubert was the first to introduce this genre to the art of music with his song-ballad "King of the Forest". The series of songs have a special place in Schubert's vocal work. The song series "Beautiful Mill Girl" and "Winter Road" are the beginnings of a new era in the history of vocal music. The content of these two works is inextricably linked. All the songs are based on the poems of the poet Wilhelm Müller. The protagonist of the song is a lonely, unhappy, homeless person. He seeks happiness and joy in life. But the indifference and betrayal of others condemns him to unhappiness and loneliness. The protagonist of the series of songs "Beautiful miller girl" is a young man who entered life with great joy and bright dreams. In the "Winter Road" song series, the protagonist is portrayed as a man who has lost his life and his hopes have been dashed. In both songs, the protagonist's inner experiences are inextricably linked with the life of nature. The events of the first series take place against the backdrop of spring nature, while the second takes place against the backdrop of the heroic winter landscape. The song "Beautiful Mill Girl" was written in 1823 and consists of 20 songs. The poems of the poet Müller are a story about the life, unrequited love and mental anguish of a young miller. As he travels the world, he is hired as a mill worker. He falls in love with his master's daughter and gives in to his

dreams. But he cannot get an answer for his love and devotion. The miller girl marries a hunter boy. Grief-stricken, the young man throws himself into the river and dreams of finding peace at its bottom. These events are told in 20 songs. The first ten songs express the hero's bright, unblemished dreams, and the next ten songs express other moods: suspicion, jealousy and sadness. The songs also have the image of a river. He was a constant companion of the protagonist, and the composer paid special attention to the expression of this image.

The "Winter Road" song series was written in 1827 and consists of 24 songs. Disappointment, grief, and hardship in life once completely changed a young man. Now the protagonist of the song is a lonely, wandering man. Unfortunately, he leaves his country and wanders around. Its constant companions are wind, storms and crows. In these songs, the protagonist thinks philosophically about people and the meaning of life. There is no plot development in the "Winter Road" series. That's why the songs are associated with tragic themes and moods.

In the example of song series, it is easy to think about the peculiarities of Schubert's singing career. First of all, it is necessary to pay attention to the melodies, which are very beautiful, expressive, in harmony with the poetic text. The nature of the melody also depends on the development of the plot. The composer emphasizes the key words in the text with expressive intonations and harmonies. The piano part is also very important in all the songs. The reason for the simplicity and expressiveness of Schubert's songs is that they are very close to folk songs. The whole series is divided into two parts: the first part consists of ten songs - these are the days of bright dreams; in the second part, feelings such as suspicion, jealousy, grief prevail. There is another side-line that describes the life of another character - the river. A loyal companion of a young man who is always present in Buhikoya.

The song "Yolga" is very close to folk songs. The structure is coupled, relying on tonic-dominant harmony, the arrangement of the melody along the chord sounds gives the song a lively, refreshing character.

In the first part: "Where to?" and "My" songs are noteworthy. "Where to?" in his song he tells the story of how the miller's disciple obeys the merry call of the stream and follows him in unknown directions.

The song "Criticism" is quite contradictory, in which Schubert deviates from the form of the couplet and develops the musical material in a free way, subject to the poetic text. The melody is composed of chromatisms and consonance. Sentences are separated by pauses.

In the songs of the second part of the series, Schubert describes how the pain and depression in the young man's heart is growing. The young man's suspicions are confirmed: his opponent is a brave young man. In the song "The Hunter," Schubert creates a new hero image in which he uses quartet vaccines close to the hunter's trumpet.

One of the most expressive songs of the series is "Favorite Color", which is the only song that predicts the tragic tones of the "Winter Way" series. The song was written in a minor tone, which Beethoven called "black tonality".

The vocal melody of the song is distinguished by its lyrical excitement and wide performance possibilities. The piano accompaniment repeats the melody, sharpening its melancholy character with the downward movement of the gained second and the dimming of the lower registers.[4]

The song "The Mill and the River" is composed in the form of a dialogue. The river answers the sad questions of the miller softly. The song is written in three parts. In the reprise, one can observe the interplay of conflicting images. In the final sentences and postludes, the appearance of bright colors that appear as a result of a return to major, peaceful harmonies, without hesitation to the words about going to eternity, signifies a more sorrowful submission to death.

The Winter Road series was written in 1827. In its content, it differs from the "Beautiful Mill Girl" tour sand, created four years ago. The young man who was once cheerful and tctik is no longer recognizable at all. Unhappiness and grief fell on his head. Plus she has to leave her lover because she is poor. He is forced to leave the places he has cherished for himself and go far. Ahead awaits him only the way to the grave. All the songs are combined with the tragic theme of the series, Lee's mood.

The Winter Way series is divided into two parts, consisting of twenty-four songs, each with twelve songs. The first song, "Sleep Peacefully," is a sad song about the love of the past, what awaits a stranger who has left his homeland. consisting of three repetitive plates facing each other.

"The rooster crowed ..." he enters, entering the world of cruel life. The drama of this contradiction is emphasized by many modes of musical expression: minor minority, dissonant pauses, and abrupt bursts of altered chords. The melodic singing disappears and is replaced by tones close to declamation.

In the second part of the category, the tragedy grows steadily and the theme of loneliness alternates with the theme of death. This happens in a sad song called "The Crow" (the crow of death's tree), in the tragic song "The Wayman". The sad ending of these two song series is the most important stages of the movement towards the song "Sharbankachi". The image of Sharbankachi is portrayed as an artist, an artist, a symbol of Schubert's own destiny. At the end of the song, a question is asked to the poor musician: "If you want, we will endure the grief together, we will sing in shame." Interestingly, in the piano part, Schubert uses the tonic quintet of the bass to represent the sound of a simple folk instrument.[5]

Schubert's instrumental works are no less important than his vocal works in terms of their historical and artistic significance. Due to Schubert's work, a new genre in the art of music - the miniature of lyrical instruments - played an important role. (impromptu, musical moments, etc.). The description of short, small forms and lyrical images are the main features of these works. In addition to paying great attention to the creation of such works, the composer constantly wrote large-scale classical musical works: quartets, trios, quintets, sonatas and symphonies. String quartets in the minor and ly minor, the trout quintet, the lya major sonata for piano, and symphonies in si minor and do major are Schubert's masterpieces.

As mentioned earlier, Schubert is the founder of the lyrical-dramatic romantic symphony genre. His Symphony No. 8, known as the Incomplete Symphony, is a similar work. The symphony is written in si minor and consists of only two parts. That's why it's called "unfinished" because the symphony has to be in four parts. The composer had the opportunity to record the other two parts. But he was able to express all his thoughts in two pieces of music, and there was no need to finish writing the symphony. Schubert created the symphony in 1822, at a time when his creative potential was flourishing. Unlike Beethoven's heroic symphonies, this work is lyrical-dramatic. All the musical themes in the symphony are in the spirit of the song, and the influence of Schubert's vocal work is noticeable.

The first part - written in the form of Allegro moderato sonata and the theme of the introduction - begins with a unique epigraph that embodies the main idea of the symphony. It runs throughout the first part (as an introduction to the development and code). As a border for the exposition and reprise, it is contrasted with the rest of the subject material. In the preface, the subject is echoed with lyrical-philosophical observation, tragic in development, painful in code.

The narration of the main party theme attracts attention with its unique song style. Clarinetists and goblins perform this elegant, lyrical melancholy tune. Clarinets and goblins perform this elegant, lyrical melancholy tune.

The supporting party is also close to the song. It is performed by cellos with a dark, soft timbre. The theme is not typical of the classical symphony - it sounds in the major tone (the V level tone relative to the minor tone).

There is no antagonism or internal contradiction between the themes of the exposition. Both are close to the song, the lyrical themes being given in comparison, not in conflict. The development is based on the introductory material. Frequent accents, a sudden change of volume, a background that beats with restlessness create great tension, intensity, tremendous tension in resonance. At the peak of the tension, the orchestral sound is amplified by the addition of trombones to the performance. This is the first stage of development. The second period is very sharp.

In various orchestral compositions, some tones of the preface are reworked in a canonical way, and a new expressive plate with a dotted rhythm is introduced. The culmination moment begins with a sharp struggle of D-dur and h-moll. The reprise does not introduce any innovations that could turn development in the other direction. In the code, the subject of the introduction sounds sadder again as the last word. The second part of the symphony is written in the form of Andante con moto undeveloped sonata. Both themes sound wonderfully lyrical. The desire to create new romantic forms of instrumental music, which is reflected in the work of List, is noticeable.

The Incomplete Symphony is one of Schubert's most comprehensive works. Unfortunately, the composer did not have the opportunity to hear it in the orchestra. The manuscript of the symphony was found and executed only in 1865. Since then, the Incomplete Symphony has been a regular feature of concert programs[6]

In the fall of 1828, Schubert suddenly became seriously ill. His ordeal lasted three weeks. On November 19, 1828, Franz Schubert died. It has been half a year since Schubert attended his idol's funeral - the Viennese classic L. Beethoven. Now he is buried in this cemetery. Once you get acquainted with Schubert's biography, you can understand the meaning of the inscription engraved on his tombstone. He says it is a rich treasure, but even more beautiful hopes are buried in the grave.

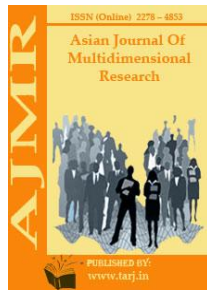
The first song works were created by a young composer at the age of seventeen. Each of Schubert's songs is an unparalleled artistic image that comes from a combination of music and poetry. The content of the songs is conveyed not only through the text, but also through the corresponding music, emphasizing the uniqueness of the artistic image and creating a unique emotional atmosphere.

In the example of song series, it is easy to think about the peculiarities of Schubert's singing career. First of all, it is necessary to pay attention to the melodies, which are very beautiful, expressive, in harmony with the poetic text.

In his chamber-vocal work, Schubert used the texts of the famous poets Schiller and Goethe, as well as the poems of his contemporaries, many of whom became famous because of the composer's songs. In their poems, they reflected the spiritual world inherent in the representatives of the romantic direction in art, which was close and understandable to the young Schubert. Several of his songs have been published during the composer's lifetime.

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ESTABLISHMENT AND DEVELOPMENT OF UZBEK THEATER

Oktamjon Ergashevich Abdullayev*

*Dean of the Faculty of Arts,
Namangan State University, UZBEKISTAN

ABSTRACT

The independence of the Republic of Uzbekistan has had a natural impact on the development of theatrical art. Modern Uzbek Theater is an art that carefully preserves its traditions and seeks to absorb the unique achievements of mankind. Historians have pointed out that the main source of all kinds of spectacles, of all the art genres that grew out of them, is labor. Russian philosopher G.V. Plikhanov teaches that “play is the child of labor.” GV Plekhanov wrote that we cannot understand the history of culture if we do not absorb the idea that he died and that man in general, first of all, looked at things and events from the point of view of life and profit, and that his views were gradually treated aesthetically.

KEYWORDS: *Theater, Stage, City, Spectacle, Process, Work, Play, Aesthetics.*

INTRODUCTION

Mankind In the 21st century, the number of large cities and urban populations is growing rapidly. There are more than three hundred major cities on the planet with a population of over one million. Eighty percent of the world's population lives in cities. Behind these numbers lies the complex progressive process of rebuilding people's aesthetic relationships. Traditional Uzbek theater is based on the ancient spectacles of the East, and its roots go back to its relations with primitive society. This situation calls for the search for its first sources of creation in the soil of Central Asia and in the social life, national characteristics and traditions of the ancient peoples who lived here, in the nature of the nation.

Historians have pointed out that the main source of all kinds of spectacles, of all the art genres that grew out of them, is labor. Russian philosopher G.V. Plikhanov teaches that “play is the child of labor.” GV Plekhanov wrote that we cannot understand the history of culture if we do not absorb the idea that he died and that man in general, first of all, looked at things and events from the point of view of life and profit, and that his views were gradually treated aesthetically.

[1]

“We go down in history with man,” said one philosopher. This idea also applies to the study of the history of theater. Because art is born as soon as a person is born, his senses, his speech of perception. Art is the fruit of human aspiration for beauty and is an integral part of human life.

The creation and development of the Uzbek national theatrical art goes back many centuries

Based on Academician MamajonRakhmonov in his scientific researches proved that theatrical elements were born in Central Asia, in our country in the III-I centuries BC. Archaeological materials found, especially spool fragments, have been proven to depict the heroes and events of Euripides' tragedies in paintings painted on various women's ornaments. But where were this playwright's tragic plays played and staged? Were there buildings in our republic resembling Greek amphitheaters? Legitimate questions such as. These questions became clear when the remains of an amphitheater built in the III-I centuries BC were found in the Surkhandarya oasis, near the city of Termez (formerly the city of the Moon). At the same time, the discovery of masks of comedians and their small statuettes in the Afrosiyab district of Samarkand shows that in the territory of our country there are also field performances based on traditional folk art. This type of art gradually developed and gradually became associated with the traditions and customs of the Uzbek people.

The development of European-style theater has also been a major factor in the development of theatrical art, including comedy and entertainment, as well as puppetry. At the end of the 19th century and the beginning of the 20th century, a European-style theater began to enter Turkestan. Enlighteners ZokirjonFurkat, Ahmad Donish, MahmudhojaBehbudi, Abdulla Avloni, Mannan Uyghur, Abdurauf Fitrat, Cholpon and Hamza HakimzodaNiyazi were the founders of the new form of theater.

In 1911, MahmudhojaBehbudi's (1875-1919) drama “Padarkush” was born. He performed on January 15, 1914 in the “People's House” in Samarkand, and then in February in Tashkent in the troupe “Turon” by Abdulla Avloni. The current Uzbek National Academic Drama Theater was born on this day. Along with Mannan Uyghur, well-known actors AbrorKhidiyatov, MasumaQoriyeva, Sora Eshonturaeva, EtimBobojonov, ZamiraHidoyatova, Maria Kuznetsova, SadihonHabubillaev, Sharif Qayumov, Olimkhodjayev, ShukurBurhanov, The merits of Nabi Rakhimov and other great artists are great. They laid the foundation of modern Uzbek theatrical art.[2]

In 1913, the 2,000-seat Konizey Theater was opened in Tashkent. During this period, various theater groups from Europe, Russia and the Caucasus came to Turkestan.

Famous singers, musicians and various ensembles often came on tour. Founded in 1884, the collective organization “Turkistan - the art of Russian music” has played an important role in promoting the art of Russian music and in inviting and receiving theaters, soloists and ensembles on tour. For example, in 1891, Lassalle from Paris exhibited works by composers such as the operetta troupe J. Kalman. Opera and Ballet Theater on tour from Tbilissi (Tbilisi) in 1894. He performed operas such as “Aida”, “Faust”, “Demon”, “Secret Cardinal”, “Carmen”, ‘Ivan Susan’, ‘Traviatauva’ and ‘Rikvaya drama’. Russian drama theaters were especially popular. They performed AS Griboyedov's “Ball of Wisdom”, V. Gogol's “Inspector”, AV Lukova-Kabil's “Krechesky's Wedding”, A.N. Ostrovsky's The Bride Without a Bride and Thunder, Schiller's Deceit and Love, and the dramas of Gorky, Chekhov, and Shakespeare were regularly shown to the audience. During this period the masters of the Russian stage, Robert and Raphael Adelheim, M.V. Dalskiy, I.A. Malinovskoya, I.Sobirov, V.F. Commissar, M.I. Dolina, Karvin-

Kassakovskaya, N.A. The tours of such famous artists as Shevelev, P.D. Orlov, S. M. Khachaturov in Turkestan are of great importance. Various articles, reviews and announcements about these tours have been published in Turkistanskievegamosti, Turkistanskiykur'er, Turkistankayatzemnayagazeta, Turkistonviloyatiningazetasi, Vaqt and other newspapers.[3]

The staging of European and Russian plays in Turkestan has contributed to the development of a modern form of theater among the local population. It should be noted that the performances of these tours, concerts, concerts of amateur groups were also of interest to the intelligentsia of the local people. Jadids get acquainted with the cultural life of the Russians, gymnasiums, scientific societies, institutions such as newspapers, magazines and publishing houses, book publishing houses, theaters and concert organizations, are interested and express their impressions in newspapers and magazines. In Uzbekistan, in the early twentieth century, Jadidism (Arabic novelty) became a social movement. With the emergence of the Jadid movement, the Tsar faced fierce opposition from the Russian administration and local fanatics. However, the idea of the Jadids became more and more popular among the local people. [4]

As a result, many Uzbeks, Tajiks, Turkmens, Kyrgyz, Kazakhs, and other peoples who devoted their lives and property to enlightenment, development, and theatrical art in the name of the Jadid idea and movement. people came out. They became aware of the process of socio-political life, and intellectuals with a new worldview began to play a consistent role in literary and cultural life. In particular, in the creation of European-style national theater and drama, M. Behbudi and his thinkers, comrades, searched in their creative work, wrote plays on various topics, trained performers and began to show new works in the theater. For example, M. Rakhmonov gives the following example about the works that took the stage from 1913 to the February Revolution of 1917 in his book "Hamza and the Uzbek Theater": Haji Muin, Shukurullo (Mehri), A.Samadov, A.Avloni and others. These are "Padarkush" (Behbudi), "Mahramlar" (A.Samadov), "Mazlumahotun", "Jubonbozlikqurboni", "Koknori", "Qazi ilamulla" (Haji MuinShukurilla), "To "Y", (NusratillaQudratilla), "Juvonmart", "Stepfather", "Boyvachcha", "Happiness is over", "Stupid", "Hush keeling, hush keteng", (Abdulla Badri), "Is advocacy easy?", (Abdullah Avloni) "The Unhappy Groom"(Abdullah Qadiri) [5]

MahmudkhojaBehbudi's 1911 play Padarkush was staged in Samarkand in 1913 by Azerbaijani director AliaskarAskarov. The performance of "Padarkush" became a big event. Since 1914, the Samarkand Theater has been repeatedly toured in Tashkent, Kattakurgan, Kokand, Namangan, Bukhara, Andijan. Under the influence of Russian, Tatar, and Azerbaijani theaters, national theater groups emerged in the cities of Turkestan in those years. In 1914, a theater troupe named Turon was formed in Tashkent. Its first organizers, Abdulla Avloni, MuhammadjonQoriNizomhojayev, Shokirjon Rahimi, QudratilloMahsum, GulomZafari, NizomiddinKhojayev, and other Jadid teachers and amateur artists began working with Padarkush that year. AliaskarAskarov, who was called from Samarkand, prepared the "Padarkush" and put it on February 26, 1914 in the "Colosseum". Along with Padarkush, the Azerbaijani comedy "Chorus, Chorus" will be performed tonight. This was a sign that the Uzbeks had a large European-style spectacle.

The Azerbaijani Musical Theater plays an important role in the establishment of a musical theater in Turkestan. Since 1914, Uzbek audiences have repeatedly toured the Azerbaijan Musical Theater with the operas "Leyli and Majnun", "Asli and Karim" by the great composer Uzeyir Gollibekov and "Arshin mololan". He enjoyed watching and listening to musical comedies such as On November 12 (1916) the opera "Layli and Majnun" was performed by

Baku artists. This was the first Muslim opera performance in Tashkent. In the role of Majnun, Siddiqui Ruhullo had a great influence. Caucasian artists showed their skills openly. There were a lot of spectators... these artists, who knew the national theater well, used to come here often and give a good and useful lesson to the amateurs who took the stage here. Our young people would correct their shortcomings. [6]

Such cultural ties have had a positive impact on the culture, literature, music and theatrical art of Russian, Tatar, Azerbaijani and other nationalities, interested and inspired various generations of Uzbek intellectuals, poets, writers and artists. For example, the first period of the creative activity of the famous poet, playwright, public figure, founder of the Uzbek Soviet theater Khamza Hakimzoda Niyazi (1889-1922) began with this impression and interest. During these years he became more and more interested in secular knowledge, literature, music and theatrical art and social events. As a result, he studied Uzbek literature and music. In this direction, first of all, he began to shake his first pen in literature and drama. "Mrs. Feruza" 4 curtain tragedy (1915), 4-scene tragedy "Poisonous Life" (1915), 4-act drama "Ilmhidoyati" (1915) and 1-act comedy "Mulla Normuhammad teacher blasphemy mistake".

The first period of the creative activity of the famous poet and playwright Gulom Zafari (1889-1937) began under the influence of Russian, Tatar and Azerbaijani theaters. In 1914, he wrote a one-act play, The Unhappy Disciple. In the years to come, he will write short plays and sketches, such as "Spring", "Gunafsha", "Rabbit", "Obstacle", "Merciful Student", "Proud Man", "In the Graveyard", "Father Tatinboy". He wrote the epics "Cholpon Temir" (1924), "Youth is no longer given" (1926). [7]

The musical drama "Halima" brought him fame in 1920. Until 1937 he worked as a researcher at the Institute of Art History. Ghulam Zafari was imprisoned in 1937 on charges of unjust nationalism. He was acquitted in 1956.

Well-known poet and playwright Shamsiddin Khurshid is one of the artists who contributed to the formation and development of Uzbek musical theater in the European form. In addition to the Uzbek "People's Theater" and "Puppet Theater", his love for European theater awakens. Since 1905, Khurshid has been involved in performances organized by local Russian and Tatar intellectuals, as well as drama and musical theaters on tour from Russia, Tatarstan and Azerbaijan. He has written one-act plays "Bezori", "Taryazkhor" and "Black Woman".

In 1912, the musical drama "Poor mother or merchant wife" was staged for the first time in 1913 in the "Khudojestvennoe cinema" in Andijan. Well-known theater critic B. Nasriddinov writes about this: in 1913, Shamsiddin Sharofiddinov reworked Khurshid's play "Poor mother or merchant wife" and renamed it "Arifvamaruf". Events have also been changed in the name of the play. His music was composed by Sultan Khan Tanburchi and he performed with musicians under his direction. [8]

Thus, while Khurshid's creative work in theater and drama and poetry took shape before the October coup, it flourished after the revolution. It should be noted that Sh. Khurshid played a significant role in the emergence and development of musical drama and opera in Uzbekistan. He was the first to use the terms "musical drama" and "sad comedy" in the development of the performing arts. In 1918-1919, he first used the term "Opera" in the musical "Little Work" staged at the Oriental Stage Theater; In the early 20's, with his musical dramas, in collaboration with composers, he founded the "Stage Navoiynoma". In 1922, Khurshid's musical dramas "Farhod and Shirin", "Layli and Majnun" appeared on the stage. In 1928, the Andijan State

Musical Theater, named for the first time in the Republic, began its work with the musical drama “Farhod and Shirin”. [9]

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In the early twentieth century, European theater was established in Turkestan. A national playwright, composer, artist, painter, director and other professionals have emerged.

From 1918, Mannon directed the Uyghur Turon Theater and played an important role in its transformation into a professional theater, composing repertoires and creating a style of performance. The first generation of actors and directors of the theater studied in 1924-1927 in drama studios opened in Moscow under the Uzbek House of Education. At the end of the 1920s, the Russian Theater of Young Spectators (1928) and the Uzbek Theater of Young Spectators (1929) were established. Later, theaters, dozens of district and city theaters appeared in Namangan in 1931, Kashkadarya in 1932, and Surkhandarya region in 1935. The State Russian Drama Theater (1934-1938) and the Republican Puppet Theater (1939) were opened in Tashkent and Samarkand. The Navoi State Opera and Ballet Theater was founded in 1939. In the same year, the State Comedy Theater was established, and a year later it was transformed into the Republican Musical Drama and Comedy Theater named after Muqumi. [11]

The Tashkent Children's Theater was founded in 1939. Uzbek and Russian performances were shown. Folk puppets under the direction of R. Doniyorov played an important role in the formation of the theater. The troupe participated in the first decade of Uzbek art in Moscow in 1937 with the play “Sultanat” (S. Abdulla). S. Urazova and Y. Podgurskaya played an important role in the early development of the Uzbek puppet theater. By the 1950s, the theater had gained a lot of experience and staged works by Uzbek authors: “ZiyotBotir” (N. Khabibullaev), “Parrot and Dove” (M. Muhammedov), “The Incident in the Forest” (S. Abdukakhor) and others. The play “Aldar Kosa” (A. Bichkov), created during this period, was a great success. In 1958, the Puppet Theater of Uzbekistan took part in the All-Union Puppet Theater Festival. The theater focused on the balance between the components of the play, puppetry and acting. He won the first prizes in the performances "Rahim and brown" (I. Bobokhonov, A. Kobulov), "Alijon and Valijon" (S. Abdukakhor), "Temir bola" (G. Khojaev). The theater, in particular, has focused on creating original performances that illuminate the life of the Uzbek people. “Magic bowl” (R. Botirov, I. Yakubov), “Semurg” (Zulfiya, S. Somova), “Shirmonbuloq” (N. Ruzmuhammedov), “Kachalpolvon” (E. Ravshan) created in the 70s, Based on the story of Sh. Tetr serves children from preschool age to parents. The performances “Smile of Ayhan”, “SohibjamolGalateya” (V. Gador, S. Darvash), “Naked Horn” (E. Shwarst) are intended for adults. The repertoire also includes performances for children, such as “The Adventures of Fatima”, “Gazcha” (N. Gernet, T. Gurevish). By 1978, the theater had staged 230 plays.

Participated in the Puppet Theater Festivals of Central Asia and the Republic of Kazakhstan. The puppet theater also toured Burma, Okistan, and India. Artists A.Saydaliev, V.Gryaznova, N.Zaynutdinov in the development of theater. The contribution of Ye. Yakaveva, T. Makhramov, A. Yulinskaya, N. Levinzan is great. During the Second World War, theaters that moved from Moscow, Lelingarat, Kiev and Kharkov operated in the cities of our country. In the 50s and 60s, the Hamza Academic Drama Theater and other theaters staged performances on a variety of topics, including content, social psychology, domestic and philosophical, and colorful styles. In 1968, the Young Guard Theater was founded.

The 1970s and 1980s were a time of conflict in theater. On the one hand, there is a growing emphasis on national traditions, and on the other hand, there is an increase in luxury and luxury. In 1976, the theater-studio "Ilkhom" began its work. In 1986, the Republican Satire Theater was founded. In the second half of the 80s, the tendency to reflect life in a realistic way, the diversity of genres, the tendency to spectacle, emerged and gradually intensified. During this period, the theater named after AbrorHidoyatov took the lead. In the early 1990s, most of the performances staged by the Uzbek State Musical Theater named after Muqumi continued the features, methodological and ideological directions of the creative practice of the 80s. The new plays are based on everyday plots. Exemplified only by musical comedies, they appeared in extremely simple, straightforward forms. ("Grooms' Contest", "Words to Dilfroza"). This, in turn, indicates that the theater has not yet formed a musical-dramatic repertoire based on modern ideas, the issue of strengthening the group of artistic performers, attracting qualified, talented playwrights, choreographers is of particular importance.

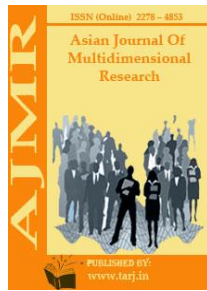
Although the Tashkent State Opera House opened relatively young (1972), it has a well-established classical and modern repertoire. Theater to classical works (Such works also make up a large part of the repertoire at the moment, some of which are new and some of which were staged long ago and were brought to a new stage in the 90s). As a general rule, the author's interpretation is followed when making or abbreviating partial abbreviations. I.Comman's "Gypsy Primer", "Bayadera", "Dutch Mother", "Cabere beauties", "Circus Queen", "Maritsa", I. Strauss's "Gypsy Baron", "Bat", F Legar's "Cheerful Lady" and J. Offenbach's "Beautiful Elena" are proof of our opinion. Uzbekistan's independence has also had a natural impact on the development of theatrical art. Modern Uzbek theater is an art that carefully preserves its traditions and seeks to absorb the unique achievements of mankind.

At present, various types and genres of theatrical art are developing in the Republic. Youth, children's and puppet theaters also have a special place. These theaters focus on the renewed notions of national values, history and modernity, the national values restored by independence. The political, economic and cultural changes taking place in our society since independence have also affected the art of theater. The development of the Uzbek theater is considered to be a task of national importance, which contributes to the further development of work in this direction.

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INFORMATION ON SYNCHRONOUS GENERATORS AND MOTORS

Oybek Bakhtiyorjonogli Parpiev*; **Dilmurod Abduraimovich Egamov****

*Assistant,
“AES” Chair, Andijan Machine-Building Institute,
UZBEKISTAN.

Email id: Oparpiyev5@gmail.com

**Head Teacher,
“AES” Chair, Andijan Machine-Building Institute,
UZBEKISTAN

ABSTRACT

Synchronous generators are used in medium and high power devices. Their main advantage is the high power factor. The power factor in these generators is close together. In addition, they consume alternating current and become a capacity for the network. This feature of the generator is widely used. As the synchronous motor consumes the forward current in the network, it compensates for the reactive power of other energy consumers connected to the network and increases the power factor of the whole enterprise. The magnetic field in the generator generates a constant current flowing through its excitation coils. The biggest drawback of a synchronous generator is that it needs an AC power supply to power the alarm.

KEYWORDS: *Synchronous, Electric Machines, Synchronous Generator, High Voltages, Current.*

INTRODUCTION

Synchronous motors are sometimes used to improve the power factor of the network. Synchronous motors designed to improve cosh are called synchronous compensators. One of the major disadvantages of synchronous motors is the constant current applied to the rotor windings.

The properties and principles of operation of single-phase synchronous motors can be applied to three-phase motors without any changes.

MATERIALS AND METHODS

In AC electric machines, where the rotational speed and the frequency of the driving force are proportional to each other, the current frequency and the rotational speed are related as follows:

$$f = p \cdot n / 60 \text{ or } n = 60 \cdot f / p$$

In this, $f = 50 \text{ Gs}$ - alternating current frequency; $p = 1, 2, 3, \dots$ - the number of pairs of poles; n - number of revolutions.

Like any electric machine, a synchronous generator is reversible, meaning it can act as both a generator and an engine.

Synchronous generators are widely used in industry. Synchronous generators are mainly used in power generation. The primary engine can be a hydraulic motor, steam turbines or internal combustion engines.

The exciter coil receives energy from a parallel excitation alternating current generator. The exciter coil is located on a single shaft with a working machine, the power of which is much lower than the power of the synchronous generator it excites. part of. The low-power synchronous generator excitation circuit is widely used. As the rotor rotates, the residual magnetism crosses the magnetic field lines, creating an electromotive force. The current generated by this electromotive force passes through a transformer and a semiconductor rectifier, is converted into a constant current, and passes through an excitation field. As a result, the magnetic field of the generator increases and the voltage across it reaches its nominal magnitude.

The energy generated by the synchronous generator is transmitted to the consumer through sliding contacts - contact rings and brushes.

Sliding contacts in a large power chain wastes a lot of energy; the presence of such contacts at high voltages is very inconvenient.

Therefore, rotary and fixed pole generators are used only for low voltages (from 380 to 220 V) and low power (up to 15 kVA).

In practice, synchronous generators with poles on the rotor and stator on the stator are often used. The wake-up call goes through the wake-up call; the excitation field consists of a coil connected in series and placed on the rotor poles.

The ends of the coil are connected to contact rings attached to the generator shaft. The rings are fitted with fixed brushes, which provide a constant current from the energy source belonging to the alarm field.

The source of energy is an alternating current generator called an alarm.

The structure of the stator of a synchronous generator is similar to the structure of the stator of an induction motor. The rotor of a synchronous generator can be made with a clearly visible pole or an invisible pole.

Hydraulic turbines serve as the primary engine of open pole synchronous generators. Therefore, open pole synchronous generators are called hydrogenerators.

At high rotational speeds, the mechanical strength of generators with such a rotor structure is insufficient, and therefore the rotors of high-speed machines are made with closed poles. The core of a closed-pole rotor is usually made of solid metal with a groove on the surface. Once the alarm coil is placed on the rotor, it is fastened by tapping posts, and the joints of the rotor ends at

the rotor ends are fastened with steel bandages. A rotor of this design can withstand linear speeds of 180-200 m/s.

The primary engines for closed-pole generators are steam turbines, which are high-speed machines. Closed-pole synchronous generators are called turbogenerators.

Since each generator can be a motor, the above-mentioned alternating current generator can also be used as a motor. Such motors are called synchronous motors.

To get acquainted with the principle of operation of a synchronous motor, let's check the scheme shown in Figure 1.

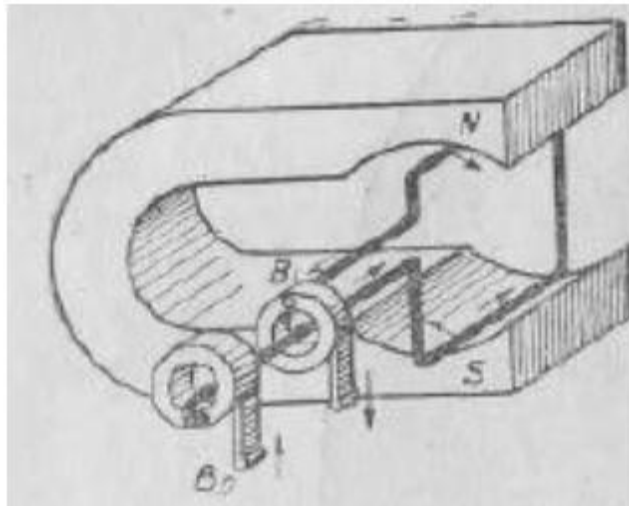


Figure 1 Generating torque under a magnetic field

When an alternating current is applied to the winding through the rings in the direction shown in the figure, the winding begins to rotate in the direction indicated by the arrow. If the current direction does not change, the winding must be reversed according to the left-hand rule after reaching the neutral plane. As a result, the package stops in the neutral plane. If an alternating current is applied instead of a constant current, and this current changes direction when the winding reaches a neutral plane, then the winding will rotate in one direction. This means that the current must change direction every time it passes through this neutral plane for the winding to rotate continuously. So the more times the current changes direction, the more times the winding passes through the neutral plane per second. That is why such motors are called synchronous motors. Synchronous means that two events change at the same time and at the same speed. Here, just as the winding passes through a neutral plane, the direction of the current changes. The fact that these two events occur at the same time and at the same speed is called synchronism.

Synchronism is, of course, a prerequisite for the normal operation of a synchronous motor. To maintain synchronism, the winding must also pass through the neutral plane 100 times per second if the bipolar motor is given an alternating current that changes direction 100 times per second (50 repetitions). It should also be noted that the more the alternating current is repeated, the more the winding passes through the neutral plane.

If a four-pole magnet is used instead of two poles, the number of neutral planes will double. In a bipolar field, if the package needs to rotate once completely to pass through the neutral plane

twice, now it only needs to rotate halfway. So the number of pairs of poles is P , which is the number of revolutions per second of the rotor:

$n_{sek} = f/P$ will be.

The number of revolutions per minute,

$$n_{min} = f \cdot 60/P$$

can be found by the formula

For example, if a 6-pair synchronous motor is connected to a voltage of 50 repetitions, its number of revolutions per minute:

$$n = 50 \cdot 60/6 = 500 \text{ equal to.}$$

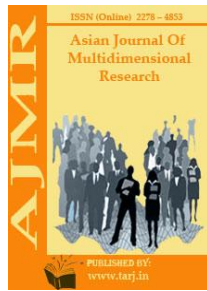
If, for some reason, the engine starts 499 or 501 revolutions per minute, it will go out of sync and stop. This means that each synchronous motor has an inevitable number of revolutions, depending on the number of repetitions and the number of magnetic poles, and cannot be changed. This constant number of revolutions is called the synchronous number of revolutions.

To run synchronous motors, it is first rotated by an auxiliary motor and its speed is brought to the number of synchronous rotations. The motor is then connected to the mains. It can then continue to rotate at a synchronous speed without the help of an external motor, and it can be loaded. If the synchronous motor is connected directly to the mains, the rotor cannot move suddenly because it is heavy and is synchronous with a current change of 100 times per second. can not rotate. As a result, the reversing current has the opposite effect on the rotor. This means that the gravitational forces cannot move the rotor in one direction for a short period of time. Therefore, each synchronous motor must have an auxiliary motor. The synchronous motor is connected to the mains only after it has reached synchronous speed with the auxiliary motor. The auxiliary motor is then disconnected from the mains. During synchronization, the synchronous speed of the motor is determined by a special instrument - a synchronoscope or lamps. A normally running motor always rotates at a synchronous speed. If the load increases or decreases, the rotor will also try to slow down or accelerate for a short time. Accordingly, the reverse conductance of the stator connected to the mains also changes, which affects the value of the current coming from the mains. The change in current helps keep the motor running at synchronous speed. When the synchronous motor is overloaded, the rotor becomes difficult to rotate and the motor out of sync stops. At such times, the motor is said to be out of sync. This means that the load on the synchronous motor should not exceed a certain limit. Some good features of synchronous motors. An over-excited, that is, a synchronous motor with more current than normal at the rotor poles improves the power factor of the network. It has been shown above that the improvement of the power factor is of great importance.

When the rotor rotates, the stator windings generate a reverse electromotive force, the value of which depends only on the excitation current. The excitation current and the associated reverse electromotive force can be changed as desired with the help of a rheostat. This reverse electric current reduces the self-induced electric power of the motors. As a result, the phase shift between the current flowing to the stator and the voltage decreases and the cosine increases. To reduce the reverse conductivity, more current must be passed through the rotor windings. This condition is called synchronous motor overvoltage.

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PROFESSIONAL INTEREST OF STUDENTS IN SELECTED PROFESSIONS

Sadoqat Alijonovna Sadieva*

*Psychologist,
Namangan State University, UZBEKISTAN

ABSTRACT

The article examines the formation of professional interest among university students provides a description of the concept of "interest" in reference literature, reveals the components that guide students to professional activity. The problem of motivation of the future profession of students is described.

KEYWORDS: *Interest of the Profession, Professional Activity, Development of Interest In The Profession, Professional Self-Determination, Self-Study.*

INTRODUCTION

Professional activity is an important part of each person according to their preferences and beliefs. The problem with professional self-awareness, in our view, is that students often do not understand the value and importance of their profession. It is associated with a modern lifestyle, the promotion of high ideals, the pursuit of material perfection, the acquisition of the maximum amount of material wealth. Professional interest requires constant work, work on mistakes, motivates the student to set new tasks and perform them. Teaching social, special and other subjects in the system of secondary vocational education, under the influence of participation in public life, develops and shapes the professional orientation of students, that is, seeks to apply their knowledge, experience, skills in the chosen profession. A person's professional orientation means a positive attitude to the profession, a desire and interest in it, to increase professional readiness, to meet their material and spiritual needs, to strive to work in their profession. The power of professional interest lies in the fact that it is a deep personal formation that reveals the objective values of professional training, gives personal meaning to professional activity, and contributes to its productivity. Professional activity is an important part of every person, according to his preferences and beliefs. The problem with professional understanding, in our view, is that often students do not understand the value and importance of their profession. It is associated with a modern lifestyle, the promotion of high ideals, the pursuit of material perfection, the acquisition of the maximum amount of material wealth. Interest in the profession

requires constant work, work on his mistakes, motivates the student to set new tasks and perform them.

Analysis Of The Literature On The Subject:

The problem of interest in the pedagogical and psychology literature has been studied by many scholars, such as L.S. Vygotskiy, B.G. Anan'ev, S.L. Rubinsteyn, B.L. Dodonov, E.P. Ilin, Yu.K. Babanskiy, V.B. Bondarevskiy, S.E. Matushkin, L.A. Gordon, N.G. Morozova, V.A. Krutetskiy, A.G. Kovalev et

L.S. Vygotsky argued that the key to the whole problem of adolescent psychological development was the problem of interests in adolescence. According to the author, the psychological functions of a person at different stages of development do not move randomly and randomly, but rather due to the aspirations, interests, enthusiasm of the person [4].

Students' interest in the profession is meant to intersect with the values and norms of the social environment, forming values that allow a person to focus on the results of their work. Thus, L.S. Vygotsky places great emphasis on the psychological functions of the adolescent in the first place, and this, in our opinion, is very relevant. It should only be added that today the attitude of society towards a particular profession is determined by the norms of the social environment, which determines the direction vector of interest in the profession.

B.G. Anan'ev believed that the individual development of a person and his abilities are formed as a socio-conditional way of life, including the history of the formation of the individual in a particular society. The author pays great attention to the development of professional activity. According to him, a person's life begins with the process of forming a person in the family, which then affects his behavior in the social environment. We agree with the author, because the process of forming a person in the family is crucial in shaping a person's interest in future professional activities [1].

B.I. According to Dodonov and AG Kovalev, interest is a motivating mechanism that strengthens a person and regulates his behavior. B.I. Dodonov states: "A living, changing interest arises in the form of a transient state, then in the form of an individual's characteristic, and finally in the form of the manifestation of this characteristic in regularly repeated experiences and activities" [2].

In turn, A.G. Describing the concept of interest, Kovalev clarifies that psychologists are dissatisfied with the concept of interest only in the subject's desire for knowledge: "Psychologists who create this concept narrow the concept of" interest "it cannot be narrowed".

E.P. Ilin believed that interests may not be related to cognitive activity at all, explaining that interests can arise on the basis of any need. E.P. "In this concept, a person's interest is evident not only in the enjoyment of the process of activity, but also in the desire to achieve a useful result in achieving a goal," Ilin said. That is why B.I. Dodonov's concept of interest is not accidental. It is of two types of interest: procedural, in which the enjoyment of an activity and a procedural goal in which a person seeks to combine a pleasant occupation with useful work in his activity [3].

RESEARCH METHODOLOGY:

The problem of developing students' interest in their future careers is becoming very relevant for education today. Most of the entrants entering educational institutions are very slow to master

their future professions. Often, applicants' choice of profession is random and is associated with a decline in interest in the specialties they apply to. In this difficult period, the student must act as an active subject of independent cognitive activity. Therefore, it is necessary to create conditions in the learning process that allow students to create an individual trajectory of professional development. In other words, the main purpose of teaching at the university is to develop the student's professional self-awareness in the educational process.

To ensure the development of professional interest of students, it is necessary to take into account the initial level of formation of this parameter, for which we turned to diagnostic tools. Analysis of psychological and pedagogical literature shows that questionnaires, observation, expert assessment methods were used to determine the level of development of students' professional interests. To evaluate career motives as professional self-awareness and personal development, we use R.V. We used Ocharova's method "Motives for career choice". This methodology helps us identify the leading type of motivation in career choice. The text of the questionnaire consists of twenty statements describing any profession. Each of them can assess the impact on career choice. Using the methodology, it is possible to determine the type of superior motivation (internal individual-significant motives, internal socially significant motives, external positive motives and external negative motives). Internal motives for career choice are understood as the social and personal significance of the profession; job satisfaction with a creative nature; opportunity to communicate, to guide other people. Internal motivation comes from a person's need for himself, so based on it, a person works with pleasure without external pressure. Studies show that the predominance of internal motives is the most effective in terms of job satisfaction and efficiency. The same can be said for external motivation.

However, J. Holland, A.A. Azbel used the modified method "Methods of studying the professional direction". The basis of the methodology is a psychological concept developed by J. Holland, which combines the theory of personality with the theory of career choice, according to which there are six types of personality oriented. These are: realistic - the maintenance of technological processes and technical devices, aimed at the creation of material things; intellectual - all professions, including analytical skills, rationalism and originality of ideas; to be in touch with the social environment; traditional - for clearly structured activities; entrepreneur - people and business management; artistic - for creativity.

Including V.V. Boluchevskaya's method "Professional self-awareness of future professionals" was used.

Using the above methods, research was conducted among students of the Faculty of Biotechnology of Namangan State University. The study involved 187 first- and second-year students.

Analysis and Research Results:

Namangan State University, Faculty of Biotechnology is one of the young areas, which was established in 2020. Since this faculty is a completely new field, we wanted to study the attitude of students to it, how professionally they understand the chosen direction. The results obtained using the method of "Motives for career choice" showed that the students of this direction showed the predominance of external positive motives and internal social motives. Of these, 17.3% of external motivation was predominant in first-year students, and 16.4% of internal motivation was observed in first-year students. External motivation includes the desire to make money, the pursuit of prestige, failure, and avoidance of criticism. External motives can be

divided into positive and negative types. Positive motives include: financial incentives, career opportunities, community approval, prestige and attention, i.e. benefits that a person deems necessary to expend their energy. Negative motives include pressure, punishment, criticism, condemnation, and other negative influences on the individual.

In the second method, “Methods of studying the professional direction”, we observed the predominance of realistic and standard types of students. Realistic types were observed in 17.8% of second-year students and 15.6% of first-year students. In first-year students, the standard type was 16.2% in first-year students, compared to 15.9% in second-year students. People of the realistic type have low sensitivity, emotional stability, and disregard for social norms. They tend to deal with and use specific things, devoting themselves to exercises that require physical strength, agility. They are mainly focused on activities that give quick results in practical work. Mathematical skills predominate in the intellectual field. Communicating with people is slow in shaping and presenting their ideas. Often these types of people choose professions that are specific problem-solving, mobility, perseverance, technique. The standard type of people, who are the second manifestation, are practical, specific, unattainable, well-powered, and socially oriented. They dedicate themselves to a clearly defined profession, performing tasks that the environment requires. They choose occupations related to office work and accommodation, creating and processing documents, organizing and reviewing data.

As a result of V.V. Boluchevskaya’s method “Professional self-awareness of future professionals”, the level of professional self-awareness among students showed an average level. Of these, high levels of professional self-awareness were observed in 16.4% of first-year students, 35.2% in intermediate-level second-year students, and 28.6% in low-level first-year students.

Students with an average level of professional self-awareness are distinguished by the presence of general ideas: about the essence of professional activity, real skills and objective opportunities, additional information within the chosen direction of professional activity, as well as alternative methods of professional development. We can also observe instability of motivation, insufficient formation of value system and stability of the structure of interest in future professional activity in students with this degree, along with a conscious attitude to professional activity. These results suggest that while students have the aforementioned character traits required in every profession, the main factor in their interest in their chosen professions is external motives. And it is clear from this that the students were in the first and second stages and they have not yet deeply understood their profession. However, interest in the profession develops during the study.

CONCLUSIONS AND RECOMMENDATIONS

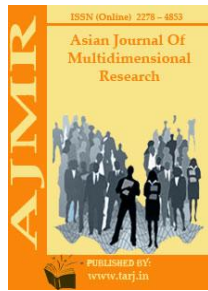
According to the results of a survey of first and second year students of Namangan State University, we came to the following conclusion:

1. External positive and internal social motives prevail in students preparing to become specialists. In their future work, it is important for them to have benefits such as financial incentives, career opportunities, team approval, prestige and attention.
2. Prospective professionals want to do specific things, dedicate themselves to training that requires agility. In particular, the representatives of this profession prefer to dedicate themselves to a specific profession, to perform tasks that require the environment.

3. The results obtained by the first and second stage respondents studying biotechnology have approximately the same appearance. In the first and second year students, the professional self-awareness showed an average level.

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MODES PETROVICH MUSORGSKI ANALYSIS OF THE OPERA “BORIS GODUNOV”

Turgunpolat Sultonaliyevich Davlatov*; **Gulhayo Alisher qizi Usmonjanova****

*Teacher,
Namangan State University,
UZBEKISTAN

**Master,
Namangan State University,
UZBEKISTAN

ABSTRACT

Like all talented geniuses, Mussorgsky was very attentive to the situations and events around him. This helped him to understand the impact of the greatest and most advanced changes in the art, literature and social life of the time and to reflect them in his creative work. Modest Petrovich Musorgsky, a man of many talents, is first and foremost a musical chronicler and playwright. His operas “Boris Godunov” and “Khovanhina” are dedicated to the dramatic events in the social life of Russia in the transition period. In the art of world music, it is one of the rare works on the theme of history.

KEYWORDS: *Music, Talent, Opera, Art, Image, Monarch, Work, Drama, Period.*

INTRODUCTION

Modest Petrovich Musorgsky, a man of many talents, is first and foremost a musical chronicler and playwright. His operas “Boris Godunov” and “Khovanhina” are dedicated to the dramatic events in the social life of Russia in the transition period. In the art of world music, it is one of the rare works on the theme of history. In these operas, the composer continued the traditions of MI Glinka's opera “Ivan Susanin” and updated them in accordance with the times. For the first time, these two popular musical dramas portrayed a comprehensive rebel movement of the people. Boris Godunov depicts the rebellious people in the Novodevichy Convent, in front of the Cathedral of St. Basil on Red Square, and in the woods around Kroma. In the opera “Khovanshina” the passion and rebellion of the folk scenes are depicted in a more contrasting way. In these operas, MP Musorgsky is a follower of the traditions of the historian AS Pushkin and a playwright who mastered the experience of Shakespeare.[1]

“Boris Godunov” opera. Musorsky began the opera Boris Gordunov in 1868 and finished it in late 1869 with a score. The composer creates this opera in pursuit of reality. These years are the happiest moments in his life. Inspirational work gives him even more strength. The opera is based on Pushkin's tragic plot. The libretto was written by Mussorgsky himself. The composer adds to his opera scenes that are not in the poet's work. However, the Balakirev circle did not deviate from Pushkin's text, as the accusations leveled at the musicians by their enemies did. He merely turned some of Pushkin's ideas into whole, unified scenes. He is fascinated by the idea of depicting a popular uprising. This idea was the subject of controversy between the King and the people. The king also pays close attention to the "tragedy of conscience" that Boris is going through. Boris's multifaceted image is one of the greatest achievements of world opera. Mussorgsky discovered a new type of opera - folk musical drama. The opera was first staged on February 8, 1874, at the Marinka Theater in St. Petersburg. The event takes place in Russia and Poland in 1598-1605. Introduction. In the courtyard of the Novodevichy Convent, people are “begging” Boris Godunov to agree to the monarchy. A sad song is playing in the orchestra, which is close to the long songs of the Russian people. The melody expands against the background of the music that represents the crowd noise. The melody is surrounded by melodies and stays inside - people are pouring into the square. There are some chords in the chorus - it describes different categories of people with different personalities, and the people are crying: “Who are you going to leave us, father?” The oppressed people are shown. When the overseer shouts, “Kneel down” and the people begin to weep, “Who are you going to leave us, our father?”, The theme of violence is heard. Mussorgsky was the first to use the method of separating the choir into individual groups. The rumor of the Duma deacon, who announces that Boris has refused to accept the kingdom, sounds sad.[2]

In the second part of the scene, Boris is enthroned in the Kremlin Square in Moscow. This scene is depicted in a mood contrary to the first. The sound of solemn bells is heard. The people are kneeling and singing the song “Glory”. The chorus in the major tone is replaced by the aria of Boris in the minor tone, his expression towards himself expresses the heavy feelings of the soul. I curtain. The first appearance. Tun. The cell in the Chudovo monastery. Moysafid Pimen writes a chronicle. The young monarch Grigory Boris Godunov hears the story of the assassination of Prince Dimitri. Gregory's equality with the prince gives rise to such an ambitious plan as to portray himself as an executed prince. Glorifying music plays. The introductory part describes the hand movements that are written fluently through musical instruments:

The Pimen leitmotif is used many times during the opera.

The second view. A pub on the Lithuanian border. Gregory appears with the monks Misail and Varlaam. The image of Daydi monk Varlaam is one of the brightest images in the opera. Varlaam's song “How it was in the city of Kazan” (“Как в городе борово Казани”) describes Varlaam's bravery. The form of the song is based on symphonic variations. Suddenly there are guards looking for the fugitive monk Grishka Otrepev.

Gregory, at the request of the guards, reads the signs of the wanted person, but in fact says the signs of Varlaam instead of his own. But his cunning will be exposed. Gregory escapes. This scene is a recitative example of the clear and impressive expression found in Mussorgsky's work.

II curtain. The royal residence in the Kremlin Palace. The scene begins with the tragic cry of Ksenia, the daughter of Boris Godunov, who is grieving over her husband's death. The nurse

sings a humorous song and the song goes into play. Fedor, the king's son, joins the game. Boris Godunov enters. The image of Boris has been interpreted in a very complex and contradictory way. Not only is he portrayed as a king who gained power through murder, but he is also a wise ruler and a loving father to his children. Boris's monologues are also tragic, written in minor tones. Mussorgsky always uses these tones to describe feelings of sadness and grief. A clear example of this is Boris's monologue "I have reached the peak of domination":

The melodious aria is replaced by an exciting recitation. He is tormented by the thought of the inevitability of punishment for a crime, and does not give peace. The orchestra plays the leitmotif of Boris's nightmares and sufferings. Shuisky, a member of the opposition who opposes Boris, enters. He reports the appearance of a defendant who claims to be Dimitri. Boris asks Shuisky to tell the prince about his death in detail. Boris's terrifying anguish continues.

III curtain. The first appearance. The room of Marina Mnishek, the daughter of the Sandomir commander. The girls describe and praise her beauty. Marina dreams of a throne in the kingdom of Moscow. A young man who introduced himself as Dimitri could help him achieve this. The Jesuit Rangoni forces Marina to take advantage of his influence on Dimitri.

The second view. Mnishek Castle in Sandomierz. Under the sounds of the orchestra, guests come out to dance the polonaise. They are followed by Marina. The young man who built the building, the Lie King, expresses his love for her. Marina denies her love and says she can agree once she becomes Russian tsar.[3]

IV curtain. The first appearance. The square in front of the Cathedral of St. Basil the Blessed. Hungry and naked, the poor people curse GrishkaOtrepev. The people are dissatisfied with Otrepeev, who is destroying King Boris Godunov's army. The main participant on the stage is Yurodi, who foresees the misfortunes of his homeland. His melancholy song "The moon is leaving, the kitten is crying" ("Месяцедет, котенокплечет") is based on the figurative melodies of the people:

The king comes out of the cathedral with a ceremony under the supervision of his officials. The people begged him for bread, first as if they were begging for alms, but then the chorus of the people, "Bread, give bread to the hungry", became shouts of demand.[4]

When the king asked Jurassic the reason for his weeping, Jurassic told him that the children had stolen his coin and asked him to order the slaughter of them as he had slaughtered the little prince. In this way he expresses the popular opinion that King Boris is an executioner.[5]

The second view. Moscow. Kremlin. Granovitaya chamber. GrishkaOtrepev will be sentenced to death in a Duma session. King Boris is tempted, not in his imagination. When he regains consciousness, he will take part in a session of the Duma. The chronicler Pimen tells the story of a miracle that took place in the tomb of Prince Dimitri. Surprised, Boris loses his temper and falls into the hands of the Boyars, who then summons Prince Fyodor and gives him a fatwa agreeing to be king. Boris dies in agony.

The third view. The rebellious people are laughing and making fun of Khruhov in order to avenge all their humiliations.

The voices of Varlaam and Misail announcing Boris' death are heard. The people find their expression in the chorus "The power of young wrestlers ..." ("Rashodilas, razgulyalyassila,

udalmolodetskaya”), written in the melodies of the songs of the heroes with all their might. This is the culmination of the chorus.

In the middle of the chorus there is a completely opposite theme: “Sing, my volinkam”(“Zaigray, moyavolonka”), and then again the main theme. sounds again. The claimant to the throne, the accused, appears with his soldiers. The people will join him. The speakers sound. He foretells that sorrow and grief will fall on Russian soil and on the Russian people. The opera ends with Yurodi's weeping. The audience was shocked and amazed by what they heard on stage. Mussorgsky was called to the stage 30 times and applauded. Mussorgsky was very happy at the time. The opera has two main lines of expression - the line of the people and the king. In the opera, the image of the people is revealed in various ways using various images. This is the chronicler, the monk Pimen, who judged Boris on behalf of the people; the wandering monks Varlaam and Misail, who embodied the various features of the Russian people; Yurodi and many other characters who put the prince's assassination on the king's face are vividly illuminated by the composer. Not everyone close to the composer, not even the composer, will accept this opera. For example, Kyui's review makes it clear that Mussorgsky did not understand the innovations in opera. Proponents of conservatism also viewed the opera with hostility because it was directed against the monarchy. This situation, of course, makes the composer sad. The widespread recognition of the opera began in 1898 after F. Chaliapin played the lead role.[6]

In the operas “Boris Godunov”, “Khovanhina”, in the series “Without the Sun” and “Songs and Dances of Death” and other works, the deep human dramas, the vivid images of the heroes, the spiritual experiences that clearly define their uniqueness even in very tense moments.

In such scenes, the composer achieves an astonishing power of influence, as deep as Shakespeare's psychology.

This creates an extremely vivid musical description in Mussorgsky's works, as well as the versatility and richness of the plan of folk scenes. At the same time, there is a subtlety, elegance, richness and diversity of vocal styles in the expression of psychological emotions. In it, all methods of musical language - flexible and expressive recitative, arioso-declamatory singing, portrait-arias are all subordinated to the main idea and achieve a high level of artistic maturity.

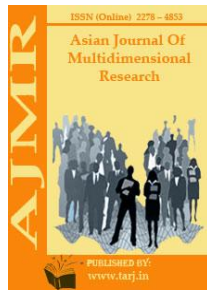
A series of poems “Scenes from the exhibition”. For the piano, this series of poems is a “suite” of ten independent poems combined with a common idea. Each piece is a unique musical landscape that reflects Mussorgsky's impressions of Hartmann's paintings. These scenes are themes of everyday life, depicting various human characters, landscapes, and images from Russian fairy tales and epics. The names of the poems also reflect their content – “Walk” (“Walk”), “Dwarf”, “Old Castle” (“Old Castle”), “Tuyilri Garden” (“Tyuilriyskiy Sad”), “Bo` dlo”, “Ballet of non-hatched chickens”, “Two Jews”, “Limog market”, “Catacombs”, “Chicken “. a hut at his feet ”(“ Izbushkanakurikhnojka ”). Miniatures differ greatly in their content and means of expression. At the same time, all of them are inextricably linked with the theme of the tour, which is the prelude to the series and "leads" the audience from one scene to another: Like all talented geniuses, Mussorgsky was very attentive to the situation and events around him. This helped him to understand the impact of the greatest and most advanced changes in the art, literature and social life of the time and to reflect them in his creative work.

Many contemporary musicians, artists and scholars believe that when studying the history of Russia, it is necessary to get acquainted not only with the works of fine art by Surikov, Repin,

Perov, but also with the music of Mussorgsky. F. Shalyapin said about MP Musorgsky: “This great man was created as powerful as the statue created by Michelangelo Buonarotti”.

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PSYCHOLOGY OF SUFIZM:"SAFAR DAR VATAN"

Kasimov Ubaydulla Axrorovich*

*Ph.D,

Head of the Department of "Pedagogy and Psychology, Educational Technologies",
Bukhara Regional Center for Retraining and Advanced Training of Public Education,
UZBEKISTAN

ABSTRACT

The human factor, its maturity is important in modern times, and in this regard, it is expedient to refer to, study, research socio-historical evidence, real materials (objects), manuscripts and scientific teachings. World-famous Naqshbandi religious order doctrine is one of the teachings of mysticism, which pays special attention to the problem of the development of the individual and the problem of the perfect man, which is its end result. In a country where the development of the individual, the formation of a perfect man, the care of him has risen to the level of public policy, in that country there is a high level of enlightenment, culture and development that serves the cause of peace, stability and absolute people.

KEYWORDS: *Khoja Abdulkhaliq Gijduvani, Safar Dar Vatan.*

INTRODUCTION

There is no doubt that the XXI century will play an important role in the annals of socio-historical development as a period of radical change, innovation and reform in nature and society. People's attitudes to nature and society, regardless of their social origin, nationality or position, are based on commonality, harmony and empathy for socio-psychological events, mutual understanding, closeness to the criteria of evaluation, based on things, universal values. We are convinced that the development of society with nature depends on the human factor, as a social necessity plays a decisive role in the existence of a common threat to humanity, common happiness, and common cooperation.

Therefore, the human factor, its maturity is important in modern times, and in this regard, it is expedient to refer to, study, research socio-historical evidence, real materials (objects), manuscripts and scientific teachings.

When we talk about the development of human enlightenment and culture of mysticism, which is the pearl of our high national values, we are talking about the blessed development of the human personality, in-depth study, analysis and rational use are the requirements of the period.

This doctrine is one of the teachings of mysticism, which pays special attention to the problem of the development of the individual and the problem of the perfect man, which is its end result. In a country where the development of the individual, the formation of a perfect man, the care of him has risen to the level of public policy, in that country there is a high level of enlightenment, culture and development that serves the cause of peace, stability and absolute people.

It is known that the world-famous Naqshbandi religious order originated from the essence of the doctrine of Khojagon. For the same reason, the scholars called Hoja Abdulkhaliq Gijduvani the leader of the Narsbandiyya religious order.

Khoja Abdulkhaliq Gijduvani was born in 1103 in Gijduvan Fortress of Bukhara region, was a great mystic scholar, the founder of the Khojagan-Naqshbandi religious order and a scholar who made an important contribution to its development, a saint, known as Khojai Jahan (Lord of the World).

Abdulkhaliq Gijduvani developed 8 out of 11 rahshas (drops, partes) of the teachings of the Khojagon religious order, later called Naqshbandiyya, which promote the spiritual development of the individual. They are:

- Hush dar dam
- Nazar bar qadam
- Safar dar Vatan
- Xilvat dar anjuman
- Yodkard
- Bozgasht
- Nigohdosh
- Yoddsht

The reason why this doctrine is so widespread is that it is popular. While many mystical religious orders call for the attainment of the Truth through the liberation from the evils and lusts of man, the acquisition of new beautiful, moral qualities, and the promotion of the path of departure from the people, the teachings of the Khojagan religious order (Naqshbandiyya) "-" Let your heart be with Allah, let your hands be busy with work ") promoted. After all, a person's honest behavior is of immense benefit not only for himself but also for those around him, because each person is an active subject and object of social relations. Therefore, this doctrine encourages people to reach the level of perfection by first creating in themselves the good, pure, just endeavors of the people, and then to call others to honesty, kindness, and justice. rather, it serves to elevate the spirituality of the whole society.

We will focus on the interpretation of the "Safar dar Vatan" style of the Khojagan (Naqshbandi) mystical religious order founded by Khoja Abdulkhaliq Gijduvani. It is a bit difficult to understand and explain. Because it has multiple layers of meanings. It is well known that one of the ways to understand the universe, and therefore to understand its secrets, is to travel, and thus

to see the world. The journey can be both outward and inward. Inner travel means traveling in the homeland without a smile. That is, it involves voluntary travel (altered state of consciousness, holotropic consciousness). It is an inner deep imaginary psychological movement, such a practical, figurative-abstract journey, that in its way it reveals to man all the negative qualities (defects) of man and serves to free him from them. It also requires a transition to all the good qualities in itself. The socio-psychological image of the person improves due to the enrichment of the image with positive qualities. Its inner aspects are revealed, and the qualities of self-management, programming, self-improvement, and self-evaluation become a system of continuous action. In the same way, Muhammad Musa ibn Hajja Isa Dahbedi said in his treatise "Kasir ul favoyid" ("Mine of Benefits") about "Safar dar Vatan": and from the adjectives to the adjectives. Hence, in the process of fulfilling this condition, a person (who follows this path) must get rid of the external defects inherent in man and acquire the qualities inherent in angels. Apparently, this is a process that goes through a person's heart, and that is its purely mystical meaning.

The product of this psychological movement is achieved through the application of human perception, will, imagination and thinking. Human thinking is a process of higher knowledge and understanding that reflects reality more fully and clearly than its senses, imagination and perception.

When thinking is viewed as an activity of thinking, it is meant that any task set by a person is a task to be accomplished. Every person living in a social life is formed as a person with his own unique psyche, depending on the level of knowledge, in what environment, under the conditions of which he was brought up.

It is worth noting that the psychology of the individual is a product of the development of society, which requires its variability under the requirements and influence of the social environment. That is why the psychology of modern man is radically different from the psychology of the people of the time in which the creators of mystical doctrine lived. The rapid development of modern science and technology leads to an abundance of information (the diversity of sources of their reception: books, newspapers and magazines, radio and television, audio and video, telecommunications, computer global communications, etc.), which of course it has a significant impact on human thinking as well as on a number of psychological aspects.

It is also possible to interpret the inner meaning of "Safar dar Vatan" by copying it to the present day. For example, if a person who has never been to France argues with someone who has been to France ten times, can a person who has never seen this country win in this dispute? Maybe! Because this person's soul, that is, his soul, can travel there with consciousness;

A person who has traveled to France speaks only of what he has seen, and he can explain the cause, essence, history of that event and incident. The psychology of the individual, the rise of his thinking to a higher level, a deeper study of our socio-historical, spiritual heritage, not only helps to reveal its aspects in all respects, but also helps us to better understand our daily lives.

Although the essence of the doctrine of the religious order "Safar dar Vatan" in its essence requires a journey into the inner world of man, but the shortcomings of the inner world of the person are manifested in communication (communication), in foreign places, during temporary residence with others. That is why Abdul Khaliq Gijduvani said to Khoja Kabir, the adopted disciple of Khoja Abdul Khaliq, "Travel more, for in this you will see the sharp spears of your passions. Our Prophet (pbuh) said that if you travel, you will gain spiritual health and wealth.

Indeed, when a person is family, work, market, meeting-ceremonies, travel, or alone, he behaves differently and, accordingly, plays a social role in the influence of the environment in different contexts, and exhibits mental states that characterize behavior, attitudes, and attitudes.

It requires that a person be able to control his inner world in order to realize all his positive qualities in this or that environment, to constantly control it internally and externally, to express himself positively in the society in which he lives, to realize his potential. Otherwise, unhealthy thoughts will arise about it. An effective solution to this problem is "Safar dar Vatan rahshasa. When a person follows the teachings of the religious order "Safar dar Vatan" and travels to his inner world, he eliminates them in his practical journey in the external world, realizing all the flaws, shortcomings, impure behaviors, impure passions that arise from his behavior. reaches And as a result, he rises to a higher level in maturity.

It should be noted that the implementation of the "Safar dar Vatan" rahsha involves 3 stages. In the first stage a person realizes all the negative qualities in both practical and spiritual inner life on the journey, and in the second stage he eliminates these qualities, enriches his morality with positivity (goodness), and in the third stage corrects his inner self. The third stage, if understood in a secular sense, is to reach the mysteries of the universe, that is, to bring the apple to its true essence, to understand the world, to develop into a perfect human being. That is why the inner figurative journey literally means "reward" - immersion in inner thinking, entering a state of meditation. Our pir has achieved a modified mind modification (holotropic consciousness) that is free from excessive psychological interference during the mucosal process. In this case, due to the creation of the mental capacity (inner) to make perfect use of association and integration, a person (person) can achieve a high degree of accuracy in solving a particular task (task). That is why they talked about the journey of the soul. From a psychological point of view, access to this state takes place with the help of certain exercises, creating beautiful images with all concentration, achieving a certain breathing rhythm, weakening or stopping muscle tone by weakening or stopping memory function, and achieving infinity. As a result, the human person ascends to the level of perfection, achieves the programming of the self-regulation of the psyche and a sharp increase in mental power. The programming of such situations is reflected in the mechanisms of meditation, autotraining, Milton Erickson hypnosis in psychology. Similarly, the neurolinguistic programming that has become popular today seems to be at the heart of psychotechnics. This is a manifestation of the psychological mechanisms of the "Safar dar Vatan" character, which testifies to its invaluable contribution to modern psychocorrection. In the line "Safar dar Vatan""The concept of homeland can be understood in different ways:

It can also be understood in the sense of direct homeland. Sadriddin Ayni in his memoirs about Hazrat Mahmudhoja Behbudi describes how they understood "Safar dar Vatan" as follows: is standing. "It means to see the world through a journey, to study its mysteries and its personal practical qualities, its outward qualities.

It can also be understood in the literal sense of 'mind'. One strives for Allah throughout one's life. His aspiration to Allah is possible only by following his own path. Because Allah is in the heart. Therefore, this rahsha can also be understood as a journey of the heart.

It is permissible to understand it in the literal sense, in the sense of the Mother Earth and the Presence of Allah. Who Created Mankind? God! So, the real Homeland of mankind is Allah. After leaving this apparent motherland, the world, a person returns to his eternal homeland before Allah. Therefore, the true meaning of the concept of homeland is Allah in the external

sense and in the internal sense and the content of the hadiths of the Prophet Muhammad (peace and blessings of Allaah be upon him), which is very popular today, is as follows: indicates.

Thus, this branch of the doctrine of the religious order has not lost its significance for modern man. By following this rahsha, a person attains to become a perfect believer. This, of course, has a positive effect not only on his inner world, but also on his external activities.

This will benefit both society and all citizens. Indeed, all the divine books that have come down to mankind, including the Qur'an, promote such virtues of faith. Because the family, the descendants, the community, the society of the perfect, the faithful, the honest, the good people will be stable and full of goodness, the behavior of those who strive for it, the sphere of thinking will serve as a guarantee of success.

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PHOTOSYNTHETIC INDICATORS OF PLANTS VEGETABLE SOYBEANS AND BEANS DEPENDING ON CHLORIDE SALINITY

Kim Veronika Vladimirovna* ; Narimanov Abduljalil Abdusamatovich**

^{1,2}Institute of Genetics and Plant Experimental Biology Academy of Sciences of the Republic of UZBEKISTAN

ABSTRACT

In our research, we studied the features of photosynthetic processes in etiolated sprouts of vegetable soybeans of the named Izumrud variety and beans of variety Zvezda Vostoka with a change in lighting conditions and the effect of different concentrations of chloride salinity on these processes. Studies have shown that when vegetable soybean plants and beans are transferred from the dark phase to light under conditions of chloride salinity, the intensity of photosynthesis is significantly reduced, which is due to a decrease in the number of green pigments and a weakening of the bond strength of chlorophyll-protein complexes.

KEYWORDS: *Sprouts And Plants Of Vegetable Soybeans And Beans, Sodium Chloride, Salinity, Dark Phase, Light Phase, Intensity Of Photosynthesis, Green Pigments, Chlorophyll.*

INTRODUCTION

Photosynthesis, a unique physico-chemical process carried out on Earth by all green plants and some bacteria and providing the conversion of the electromagnetic energy of the sun's rays into the energy of chemical bonds of various organic compounds. The basis of photosynthesis is a sequential chain of redox reactions, during which electrons are transferred from the donor-reducing agent (water, hydrogen) to the acceptor-oxidizer (CO₂, acetate) with the formation of reduced compounds (carbohydrates) and the release of O₂, if water is oxidized [9].

The key function of the green plant is photosynthesis, which ensures the energy state of the cells and supplies them with intermediates and plastic substances. The viability of plants, their stability are determined primarily by how smoothly the biochemical and physiological processes of photosynthesis proceed, what is the margin of their strength, what is the lability of these processes and the ability to correct the problems that arise. And excessive salinization is one of the common natural and anthropogenic factors, the impact of which green plants are forced to experience [3, 4].

How this effect affects different aspects of photosynthetic activity, how the rate of synthesis of pigments involved in this process changes, especially if the plants are in the dark, and then transferred to the light - to get an answer to these and other questions - the purpose of our experiments with young vegetable soybean and bean plants [12].

The main photosynthetically active components of plant leaves are green pigments - chlorophylls *a* and *b*. Optical properties and photochemical activity of chlorophylls are determined by the chemical structure of their molecules, which allows absorbing solar energy and using it for the biosynthesis of organic substances [11].

Environmental conditions, primarily light, have a strong influence on the functional activity of plants, which is reflected in their pigment apparatus. The content and ratio of pigments are determined by many external and internal factors, the action of which is integrated into the activities of two processes - biosynthesis and pigment degradation [2].

According to the authors [8] also note that in conditions of chloride salinity, the strength of the bond of chlorophyll with the protein-lipid complex decreases.

The authors [5] in experiments with bean leaves obtained data that show that weak sulfate and chloride salinity contributes to the strengthening of the bond of the pigment of the protein complex. The authors suggest that proteins protect chlorophyll from destruction and stabilize the complex under the influence of salinization. With an increase in the concentration of salts, the strength of the bond decreases.

Photosynthetic activity of plants depends on many external factors, and the main ones are lighting conditions, the presence of carbon dioxide, ambient temperature, water supply and mineral nutrition. Environmental factors, acting on individual reactions of photosynthesis, cause a change in the activity of the photosynthetic apparatus as a whole, which ultimately determines the overall productivity of plants [7].

In conditions of soil salinity, photosynthesis undergoes significant changes as a result of the toxic and osmotic influence of salts. At the same time, with the direct impact of excessive salinity on photosynthetic processes, other changes in metabolism, in particular, the water regime, occur.

Some authors [6] note a decrease in the content of chlorophyll in the leaves of cultivated plants under the influence of chloride salinity, others [10] - an increase in the content of chlorophyll and some stability of the content of chlorophyll *b*. They associate a change in the amount of chlorophyll with the degree of salt resistance of plants, as well as with the quality and quantity of salinity of the substrate.

RESEARCH METHODS

Laboratory experiments on the effect of chloride salinity on photosynthetic indicators of vegetable soybeans and beans in various solutions of chloride salinity were conducted by doctoral student Kim V.V. in the section of his doctoral dissertation at the Institute of Genetics and Experimental Plant Biology in 2021 in four times repetition.

Material for the study of vegetable soybeans of the Emerald variety and vegetable beans of the Star of the East variety.

To conduct the experiment, the seeds of vegetable soybeans and beans after soaking were placed for swelling and germination in the dark in distilled water, and 3 days after the seeds pecked and

the root grew, these sprouts were transferred to the light and distributed 10 pieces of seeds in petri dishes with different concentrations of salty solutions.

- 1) distilled water – control;
- 2). 0.40% solution of sodium chloride;
- 3). 0.60% sodium chloride solution;

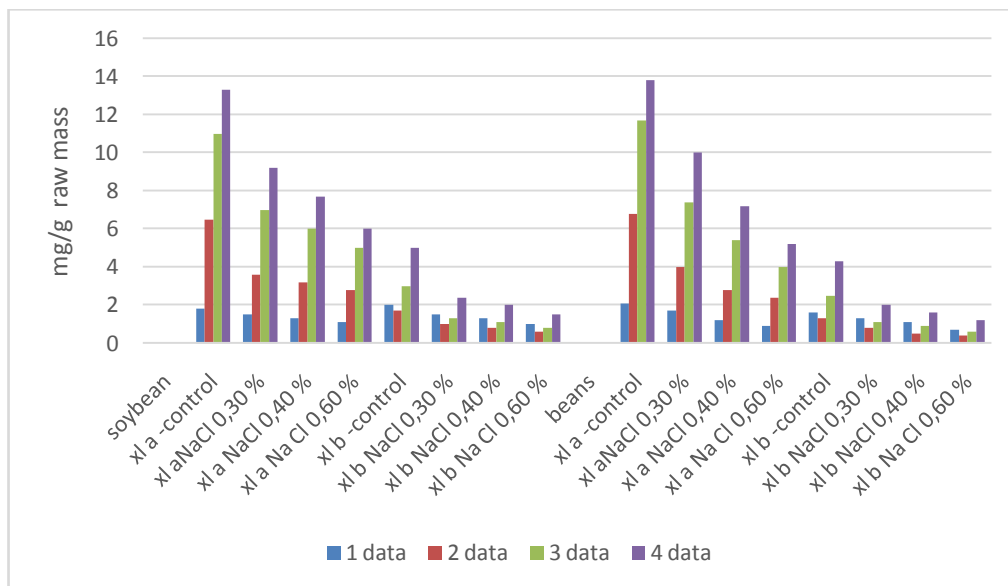
Osmotic pressure of solutions 0.14 MPa.

Experiments in laboratory conditions were carried out in 4 terms: 1 term - 3 days, 2 term - 5 days, 3 term - 7 days, 4 period - 10 days, after the start of lighting (transfer from dark to light phase).

Quantitative determination of green pigments was carried out by spectrophotometric method, the intensity of photosynthesis was determined by the method of F.Z. Borodulina. The bond strength of chlorophyll to protein was determined by the degree of extraction of chlorophyll at low and high concentrations of acetone in petroleum ether [1].

RESEARCH RESULTS

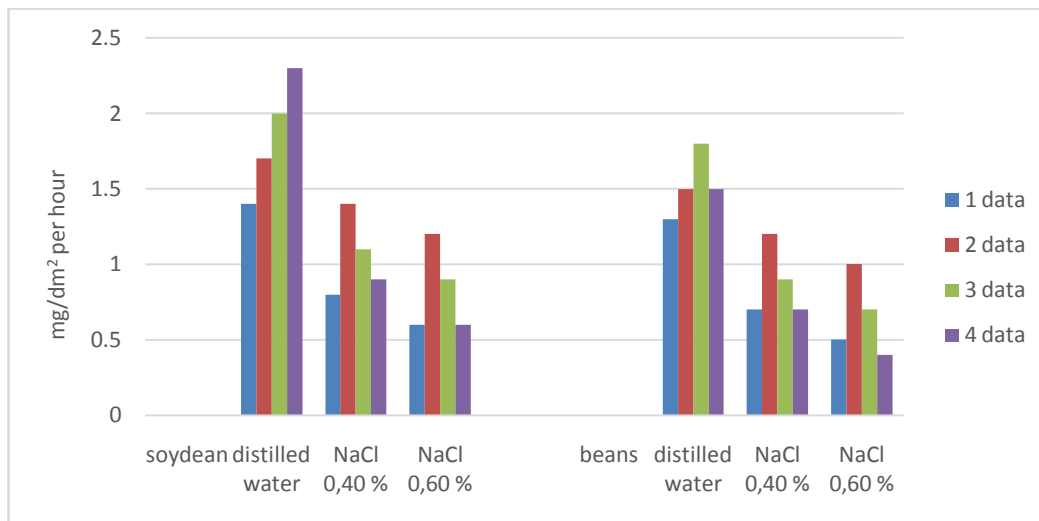
In our studies, when transferring plants of vegetable soybeans of the Emerald variety and beans of the black 1 variety, from the dark phase to the light phase, there is a significant increase in the concentration of green pigments as the growth of plants increases. In this case, the amount of chlorophyll a increases more than chlorophyll b in plants on all variants. At the same time, there is a significant decrease in the biosynthesis of pigment molecules in the presence of sodium chloride salts at different concentrations, the greater the concentration from 0.30 to 0.40 to 0.60% compared to the control (distilled water) (Fig. 1).



Rice. 1. The content of green pigments in the leaves of the vegetable soybean variety Izumrud and beans of the Zvezda Vostoka variety

With chloride salinity, the accumulation of chlorophyll *a* and chlorophyll *b* lags behind its accumulation in the control version to a greater extent.

Our studies have shown that when changing the lighting regime from the dark phase to the light phase, the control plants of vegetable soybeans and beans observed a steady increase in the intensity of photosynthesis. A different pattern was found in plants of vegetable soybeans and beans in various salt sodium chloride variants: in the 1st period of observations, they had a tendency to reduce the intensity of photosynthesis compared to plants in control. At the same time, the greater the concentration of chloride salinity solutions, the more pronounced the effect (Fig. 2).



Rice. 2. The intensity of photosynthesis in young plants vegetable soybeans and beans

According to the author [11], after some initial decrease, the intensity of photosynthesis of plants of the saline background is further aligned with the intensity in control, which indicates adaptive changes in the physiological functions of the body to new, extreme conditions.

This pattern is also observed in our experiments: in the version with sodium chloride, depending on the intensity of the salinity concentration from 0.4 to 0.6%, photosynthetic activity retains some lag in comparison with the control version. And by the 3rd and 4th terms in vegetable soybean plants and beans, we can observe a sharp decrease in the intensity of photosynthesis in various saline variants, compared with the control.

It is known that in the process of adaptation, the plant goes through two stages: a rapid primary response (stress reaction) and a much longer stage, during which new, more reliable and more effective protective mechanisms are formed that are responsible for the course of ontogenesis in conditions of prolonged action of the stressor. If the stress effect exceeds the protective capabilities of the body, then damage develops and death may occur [6].

In our studies, at different concentrations of chloride salinity from slightly saline to medium salinity, damage and death of vegetable soybean plants and beans were not observed.

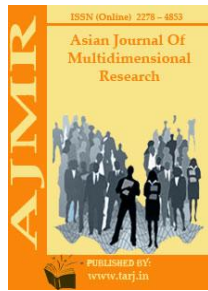
CONCLUSIONS

Thus, the obtained results show that when transferring vegetable soybean plants and beans from the dark phase to light under conditions of chloride salinity, the intensity of photosynthesis is significantly reduced, which is due to a decrease in the number of green pigments and a weakening of the bond strength of chlorophyll-protein complexes.

With chloride salinity in various concentrations from slightly saline and medium saline, the accumulation of chlorophyll *a* and chlorophyll *b* to a greater extent lags behind its accumulation in the control version.

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ACTS CREDIT MODULE SYSTEM AND ITS IMPLEMENTATION ACTIVITIES IN HIGHER EDUCATIONAL PROCESS

Jobirkhon Jurakhanovich Gaziyev*; Gulomjon Olimjonovich Toshmatov**

^{1,2}Teacher,
Namangan State University,
UZBEKISTAN

ABSTRACT

It is well known that many things in life have a unit of measurement. For example, the unit of time is the second, the Uzbek measure is the meter, the theft is the kilogram, the water is the liter, and the voltage is the ampere. Then a question arises: is teaching, especially teaching, also a unit of measurement? You can say that yes, the unit of higher education is bachelor's, master's and doctoral. It is not the units of measurement that will be written, but its stages. Unfortunately, there is no incomprehensible unit of measurement for everyone in the world, who regularly evaluates the development of students in our country in the formation of the quality of their education.

KEYWORDS: *Credit-Module, Education, Student, Study, Bachelor, Master Degree, Doctoral.*

INTRODUCTION

The credit-module system, first of all, brings to the higher education system of our country a more perfect, modern, but understandable unit of measurement than the current practice of education. According to him, OTT curricula are divided into different subjects and modules that focus on specific learning outcomes. Each subject or module is reflected in a certain number of credits, depending on the amount of study load in it. For example, each subject may be reflected in an average of 5.6 or 7.5 credits. The student is required to accumulate a certain amount of credits each semester, academic year, and after accumulating the appropriate amount of credits, he is awarded a bachelor's or master's degree. The great scholar, Jalaliddin Rumi, the son of mankind, said: "If I read for a thousand years and I am asked, 'What did you know? Therefore, the current generation is responsible for reading, asking what they do not know, and passing on what they know to the next generation. As our wise people have found, "learning science is as difficult as digging a well with a needle." He who overcomes these hardships with patience and perseverance will attain perfection. As the famous inventor Thomas Edison once said, "Ingenuity is one percent talent and ninety-nine percent sweats." [1]

Indeed, today all intelligent teachers are required to fulfill the honorable task assigned to them at a high scientific and intellectual level, to conduct training at a professional level, taking place in the hearts and minds of students. To do this, it is advisable to be aware of internationally recognized methods and tools, to use best practices in their work. Let us now look at the answers to a number of questions to determine to what extent we know the best practices mentioned above.

Have you ever imagined that once a student enters a higher education institution (HEI), he or she can choose exactly which subjects to study there, at least in part? Or at the beginning of the semester, each teacher presents a written syllabus to the students, explaining in detail what the subject is, its importance in the formation of the student as a specialist, the list of topics studied during the semester, the list of literature used by students, assessment criteria. Only then will classes begin?

Finally, OTTs develop catalogs (brochures) for the bachelor's or master's program and provide them with detailed information on what subjects students can study during their studies, who teaches these subjects, what knowledge, skills and abilities they have during the program, and then the academic year. To start these features are gradually entering the higher education system of the Republic of Uzbekistan, and this system is called the "credit-module" system of education. [2]

According to the "Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030" approved by the Presidential Decree of October 8, 2019, 85% of SMEs in the country are planned to gradually move to a credit-module system by 2030. This indicates that the module system is operational. For example, in the next 2020-2021 academic year, more than 33 major SMEs in the country are expected to switch to the credit-module system. The introduction of the ECTS credit-module system is envisaged in OTTs. The new system is planned to be introduced first in the curriculum of the 1st year, and then in the curriculum of all courses.

So what is the credit-module system of education? How does it work? Under what conditions and needs did the credit-module system emerge? What does this system give us? What are its advantages over the current education management system? How to create curricula in the credit-module system? What else needs to be done to study for a credit-module system? We will try to answer these questions briefly below.

PD-5 847 of the President of the Republic of Uzbekistan dated October 8, 2019 "On approval of the Concept of development of the higher education system of the Republic of Uzbekistan until 2030" and "Strategy of actions on five priority areas of development of the Republic of Uzbekistan for 2017-2021" Decree No. PF-5953 of March 2, 2020 "On the state program for implementation in order to ensure the implementation of the tasks set out in this decree, the Cabinet of Ministers also adopted a decision. According to the decree:

- From 2020/2021 academic years, it is planned to approve the Regulation on the procedure for the gradual transition of the educational process to the credit-module system in higher education institutions, as well as the procedure for the introduction of the credit-module system in higher education. The Ministry has introduced a credit-module system in the educational process to ensure the improvement of qualification requirements, curricula and science programs for undergraduate and graduate specialties;

The new Regulation defines the procedure for introducing a credit-modular system of education on the basis of the European Credit Transfer and Accumulation System (ECTS) in the educational process in higher education institutions. The Regulation does not apply to higher education institutions under the Ministry of Justice of the Republic of Uzbekistan, the Ministry of Health, higher military education institutions, non-governmental and foreign higher education institutions operating in the territory of the Republic of Uzbekistan.

The Regulation also provides for the gradual introduction of the credit-module system in the educational process in higher education institutions. Information on organizational issues of the introduction of the credit-module system in the educational process, including the curriculum, catalog of disciplines, academic mobility, documents related to the recognition and transfer of loans and application forms, as well as indicators for determining the level of knowledge of students during academic mobility and samples of other necessary documents were developed and approved. The following basic concepts related to the credit module system are applied in this Regulation:

GPA (Grade Point Average) - is the average value of the points earned by the student in the program, which is calculated using the following formula:

$$GPA = \frac{K_1 \cdot U_1 + K_2 \cdot U_2 + K_3 \cdot U_3 \dots + K_n \cdot U_n}{K_1 + K_2 + K_3 \dots + K_n}$$

where:

K is the amount of credits allocated to each subject / module;

U is the student's grade for each subject / module;

academic mobility - the movement of students of a higher education institution for a certain period of time to study at a single higher education institution in the country or abroad;

Mobility program - an academic mobility program established on the basis of an agreement on mutual education between two or more higher education institutions;

Credit - a unit of measurement of the workload of the student in a particular subject, depending on the results of education. Loans in accordance with the Regulation; whole, fractions can be expressed in numbers;

Higher education institution - an institution that issues documents on education and qualifications, taking into account the recognition of a certain amount of loans;

Issuance of credits - the process of official provision of credits to students or trainees on the basis of the results of education achieved in accordance with the requirements for the qualification or its separate parts;

Transfer of credits - transfer and recognition of credits received under the educational program of one higher educational institution in order to ensure academic mobility of students;

Credit accumulation - accumulation of credit units provided as a result of transfer of educational elements and achievement of educational achievements;

The student's personal learning trajectory is a route chosen by the student and allows him to accumulate knowledge in a sequence and acquire the desired set of competencies. The structure of the educational trajectory with the help of institutional documents and guidelines. Different educational trajectories in xdm can result in the same qualification;

Educational program - the main features of education (volume, content, planned results), organizational and pedagogical conditions, general requirements for science programs, as well as necessary for the organization and implementation of education in the direction of bachelor's or master's degree a set of available information-resource and educational-methodical instructions;

Educational program catalog - information on the description of the higher education institution, access to the credit-module system, the description of the existing bachelor's and master's specialties, services and resources, curricula, elements of thematic educational programs;

Learning outcomes - a description of the skills acquired by the student after the successful completion of the educational process and the ability to implement them in practice, reflecting the level of competence acquired by the student and confirmed by the assessment;

Study load - the amount of hours required by the student to achieve the expected learning outcomes on the basis of all types of educational activities - lectures, practical classes, seminars, laboratory work, course project (work), practice and independent work;

Registration service - the formation of a database of the educational process for faculty, staff and students using information systems and software products for the management of the educational process, as well as the registration of all learning outcomes, monitoring of students' knowledge and calculation of their academic rankings. services involving the organization of types;

Elements of education - a type of training that is part of the curriculum, which helps to achieve learning outcomes and the transfer of knowledge specified in the curriculum;

Transcript - a document in the prescribed form, containing a list of subjects, the expression of credits and fees in the appropriate period of study in x, letters and numbers.[3]

The learning process in the credit module system includes a set of training and control activities. Educational activities include the organization of all types of classroom activities, internships and independent work. Control measures involve the transfer of knowledge of students in the relevant subjects in the curriculum and the assessment of their results. The learning process is open to students, employers, teachers and administration; in the form of a dialogue is planned based on a student-centered approach, taking into account educational standards.

In this process, the needs and desires of employers and students are discussed. All stakeholders can be involved in the discussion on the development and implementation of the curriculum. Representatives of students may participate in such debates through the right to vote. The planning of the educational process consists of the following stages:

- Development of a standard curriculum and a catalog of sciences on the basis of advanced foreign educational experience, taking into account the ongoing reforms in the economy, taking into account the needs of consumers and national values, as well as the formation of a catalog of elective subjects. Development of science programs;

Development of a working program (syllabus) of sciences; formation of the individual educational trajectory of each student under the supervision of the educational-methodical department (bonshcharma) and the dean of the faculty with the help of the group coach in accordance with the curriculum and the list of elective subjects; development of working curricula; scheduling the learning process; Schedule training sessions for academic groups.

The amount of credits that a student must accumulate during the semester includes the compulsory and elective subjects specified in the curriculum. The structure of compulsory

subjects and the amount of credits allocated for their study are determined by the basic higher education institution. The composition of elective subjects and the amount of credits allocated for their study are determined independently by the higher education institution. Students can independently choose subjects within the elective subjects defined in the individual learning trajectory. [4]

The duration of the academic year is up to 36 weeks, of which 30 weeks are allocated for the academic period, 2 weeks for registration for the selection of subjects, 4 weeks for certifications. The duration of the academic year can be determined in accordance with the schedule of the educational process in a different order by the decision of the Board of the higher education institution.

In the credit-module system, 1 credit equals an average of 25-30 academic hours of study load. That is, the student must master a certain amount of workload in order to accumulate appropriate credits in a particular subject. The workload is divided into undergraduate - 40-50% of classroom hours, 50-60% of independent working hours, master's degree - 30% -40% of classroom hours, 60-70% of independent working hours (excluding internships and graduate work). The amount of credit per hour and the amount of study load is determined by the board of the higher education institution and is posted transparently on the website of the higher education institution.

In the bachelor's and master's specialties, a student is usually required to collect 30 credits per semester and 60 credits per academic year. The amount of credits to be paid by the student during the semester includes the compulsory and elective subjects specified in the curriculum. In the formation of his personal educational trajectory, the student must consider the transfer of subjects in the amount of 30 credits for each semester, which must include compulsory subjects in the standard curriculum.

The student must collect 180 credits when the bachelor's term is at least 3 years, 240 credits when the term of study is at least 4 years. It is required to accumulate 60 credits with a minimum duration of 1 year and 120 credits with a minimum duration of 2 years.

Monitoring of the educational process is carried out in order to achieve the desired learning outcomes, to assess the nominal amount of labor and their validity and adequacy.

Ensuring the effectiveness of the quality of education includes the process of ensuring compliance of the curriculum of undergraduate and graduate specialties of the higher education institution with the descriptions and requirements of the competent authorities.

In order to improve the quality of education and the formation of competition among teachers, according to the decision of the Board of Higher Education Institutions, students are given the opportunity to choose professors and teachers in the field. In this case, students register online at the beginning of the semester for 1 week to participate in the training of the professor of their choice through the portal of the educational information system.[5]

At the initiative of students with academic debt, the summer semester is usually organized by the higher education institution on a paid basis during the holidays in order to repay existing academic debts. The duration of the summer semester is determined on the basis of the academic calendar in the areas of undergraduate education, master's specialties and courses. The summer semester is organized according to the following regulations:

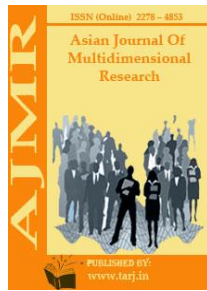
- The student expresses his desire to study in the summer semester before the beginning of the summer semester in the educational-methodical department (department) of the higher education institution;
- The higher education institution draws up a schedule for these students for the summer semester and enrolls them in classes after the student pays the tuition fee; The summer semester is organized on the basis of the current system of assessment based on the principle of transparent assessment of students' knowledge. Professors involved in the summer semester are paid on an hourly basis.

In summary, as noted above, the ECTS credit-module system requires OTTs to adhere to certain criteria when developing their curricula. This means that curricula are developed at the OTT level.

Because OTTs individually will be able to adapt more quickly to the requirements of the time, the labor market, to respond more quickly to these needs. In addition, OTTs are well aware of their opportunities, advantages, and the areas in which they need to invest in order to gain a foothold in the education system.

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AGRAMMATISM IN INTERNET DISCOURSE

Muhabbat Madaminova*

*PhD Student,
 Andijan State University,
 UZBEKISTAN

Email id: muhabbat_madaminova@mail.ru

ABSTRACT

This article argues that one of the peculiarities of the syntax of internet discourse is that it deviates from the norms of traditional literary language, a phenomenon known as agrammatism. This phenomenon is called agrammatism. At the syntactic level, agrammatism is a situation in which the syntactic relationship between the elements of expression and the various parts is disturbed, inconsistency (anakoluf) and speech interruption, retention, inadequate placement or misuse of punctuation. Also, inversion in ordinary speech, not directed to poetic speech - a change in the order of parts of speech - is also a manifestation of agrammatism.

KEYWORDS: *Anakoluf, Agrammatism, Internet Network, Internet Communication, Speech Influence, Electronic Communication.*

INTRODUCTION

One of the peculiarities of the syntax of Internet discourse is the deviation from the norms of traditional literary language. This phenomenon is called agrammatism. At the syntactic level, agrammatism is a situation in which the syntactic relationship between the elements of expression and the various parts is disturbed, inconsistency (anakoluf) and speech interruption, retention, inadequate placement or misuse of punctuation. Also, inversion in ordinary speech, not directed to poetic speech - a change in the order of parts of speech - is also a manifestation of agrammatism. Such formal and logical imbalances are associated with a violation of the order of expression and can occur under the influence of psychological factors such as hesitation, dissatisfaction, anxiety, insecurity, indecision, mood swings, in terms of expression of the emotional state of the speaker.

THE MAIN FINDINGS AND RESULTS

The ability of people of different languages to communicate in Internet communication is one of the achievements of humanity. This is very important in today's globalization process. In the process, it is natural for language learners to experience agrammatism.

Our observations show that linguistic phenomena such as partsellation, ellipsis, anacoluf, which are in fact characteristic of the syntax of speech style, are often interpreted as means of artistic representation. The following descriptions of the Anacoluf phenomenon are also evidence of this.

Anakoluf - (Greek - scattered, incorrect) grammatical scattering of the text of a work of art, incorrect placement of parts of speech. These various methodological tools are deliberately used by writers with the intention of individualizing the character of the protagonist, to fully express the spirit of the situation described [1].

Anacoluf (Greek “incompatible, inappropriate”) is a rhetorical figure consisting of a deliberate violation of the grammatical sequence of parts of speech, recognized as a neglected error or stylistic method. It can also be called a non-random stylistic error. Anacoluf has a distinctive character by nature and is evident in the background of grammatically correct speech. Anakoluf is often used to embody the speech features of a foreigner, an uncultured ordinary person, or a child who is not fluent in the language [2].

In our opinion, first of all, as a linguistic phenomenon “**Anakoluf** - (Greek anakóluthos - inconsistent, scattered, incorrect) is a method of deviating from the norm of grammatical rules in a text or discourse, grammatically scattered syntactic constructions, incorrect placement of parts of speech. In the literary text, the protagonist is used as a syntactic figure in order to ensure the originality of speech, to individualize his character.

Xuvanaviyergamenikixotinim, bolalaro'lgan, menikikechasiyomontushko'rgan- My wife and children died there, and I had a bad dream last night. (From the film “DersUzala”). The misuse of grammatical features in this sentence has resulted in syntactic ambiguity.

-Kamandirjoooon...dakumenteta...Netetaa...

-Nimagahujjatsizyurasan?!Negakelgansanbuerga?!-o'shqiraboshladiyoshginamallasochleytenant. Rostakamigayig'layboshladim.

-Eekamandirjon,mujodin god nazadprisholrabot. Ni rabot, nimuj, nidenginetu eta. Adin nidelnazad man prisholeta .Mujitshit eta.. Domadetieta.. Papa mama babushka dedushkaeta..

-Ko'nglibo'shroqekanmirahmikelayotganiko'rinibturardi. (From “Facebook”)

A video was aired on the Internet channel “”YouTube. It described an Uzbek man who knew almost no English as a driver in the United States. The car stopped on the highway. He explains to the master on the phone: Yah, problem this problem skor. One going, going, two going, going, three (qih, qih) not going. -Bu yerdamuammo, borasiz, borasiz, (qxx, qxx) ishlaymayapti, yurmayapti. In fact, the speaker meant “He walks once, twice, then stops working (walking) - Bir Marta, ikkimartadayuryapti, keyinishlamay (yurmay) qolyapti”. Thus, the anacoluf phenomenon is not only a means of artistic expression used in a work of art, but also a linguistic expression of the psycholinguistic state that takes place in a discursive situation peculiar to the method of live speech. It is noteworthy that through the possibility of media text, Internet users can see and listen to the young man's grammatically incorrect speech in a live (real) form. An observer who

is not fluent in English who sees the speech situation in this picture will also realize that the speaker is speaking incorrectly. This provides a much higher expressive effect of the sentence relative to the text form, i.e., it changes its pragmatic tone.

OramizdashifokorlarbormiBoyniostirish UN kimgaborishkerakkterapevtmidiii - Are there any doctors among us? Who should I go to?

The combination of “Enriching a rich man -Boyniostirish” was originally supposed to be written as “Raising the neck - Bo`ynio`stirish”, but due to the negligence of the speaker, the distinction between the phoneme “o” and the phoneme “o’” was omitted. Here are some of the points made in relation to this post.

- Zor BAD bor. Yaponiyani. Boynizorostiradi;
- Suzishgaborishkerak
- Endokrinologga boring
- 16-17 yoshgachaxarakatkilish kk edi
- Vrachko'rigidan, keraklitekshiruvlardanso'ngma'lumbo'ladi
- Boyni Ostirish Uchun-Uni Jinoyatini Isbot Qilish Kerak.Boylar KŶpincha Pul Bilan Qutilib Ketishadi; Ŷlim Jazosi Bizda YŶqotilgan, Bersa-25 Yil Beradi;
- Savodsizliktirikodamniyamgo'rgatiqarkan
- Bo'yio'smayotganlikhaqida Gap Boryaptibuyerda
- Bo'y Deb Yozishkerak. Boy Emas
- Voytovbaey, Bumaslaxatguruxiekan, Man "Kelingbirkulishamizda"Mandbo'ylovdim
- Kuengaborsez Sabzi Beradi
- Buy past Mengayokadi

The Anacoluf incident caused *bo'y-boy, o'stirish-ostirish* contradictions. Due to the incorrect placement of a sign, the pragmatic tone of the expression changed completely, causing it to be accepted by observers in different variants. Based on the above answers, it can be observed that there are basically three types of pragmema: a) counseling is needed for growth; b) the one who gets rich by deceit should be punished; c) word play, humor.

The first category of interlocutors took the expression correctly and gave appropriate advice.

- Zor BAD bor. Yaponiyani. Boynizorostiradi;
- Suzishgaborishkerak
- Endokrinologga boring
- 16-17 yoshgachaxarakatkilish kk edi
- Vrachko'rigidan, keraklitekshiruvlardanso'ngma'lumbo'ladi.

Among them is a humorous answer: The second category went on to discuss the issue of punishing the rich, some of whom explained that the interpretation of punishing (hanging) the rich was a mistake.

- Boyni Ostirish Uchun-Uni Jinoyatini Isbot Qilish Kerak.Boylar KŶpincha Pul Bilan Qutilib Ketishadi; Ŷlim Jazosi Bizda YŶqotilgan, Bersa - 25 Yil Beradi;
- Savodsizliktirikodamniyamgo'rgatiqarkan
- Bo'yio'smayotganlikhaqida Gap Boryaptibuyerda
- Bo'y Deb Yozishkerak. Boy Emas

The third category of communicators took the expression as a play on words and expressed it with humor.

- Voytovbaey, bumaslaxatguruxiekan, man "kelingbirkulishamizda"mandbo'ylovdim
- Kuengaborsez sabzi beradi.

The word game is based on the pragmas “Rabbit eats a lot of carrots” and “Carrot grows tall”.

- Buyi past mengayokadi.

Since the addressee was a girl, the addressee was jokingly flattered by the guy.

From these analyzes, it can be concluded that the Internet is also not an ideal area of communication. Despite their limitless possibilities, there are also discursive situations in which such logical misunderstandings arise. Although the diversity of opinions is positively assessed, there is a natural (direct) advantage of communication over the Internet (indirect) in terms of the impossibility of generalizing and summarizing them.

The omission or misuse of punctuation is a form of agrammatism. The nature of such errors made by Internet users can be determined through the following factual materials:

1. Use punctuation instead of one:

Bolalaribormi, Nilufarjon!

In this sentence, an exclamation mark is placed at the end of the interrogative sentence. The addressee wanted to express his emotional attitude towards his question and used an exclamation mark for this purpose. According to the rules of the language, in this case, both the question mark and the exclamation mark had to be put.

2. Do not use punctuation at all:

a) Eeeeeqoyileeyxamkuldimxamta'sirlandimomadtilaymanmusofiryurtdoshlarimga

b)orasidaukiganlarikuppandemiyadavridaanchaxizmatkilishdiendixarsoxadabuganidekgruchkur
maksizbumaydidalekinmanashutibbiyotnikurmaksizkilishkeragchunki gap
insonxayotixakidaketmokda

There were no punctuation marks between the sentences, and the spelling of the capital letters was not followed. In such an expression, the level of verbal influence is reduced, unable to attract the attention of the receiver (s).

3. Punctuation is used incorrectly in one place; the necessary sign is not in other places:

a) Ha borman. Uydaman. Nasibbulsayanaboraman. Inshoollox. Uzizchikayerdasiz.

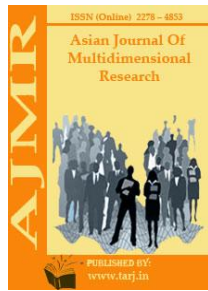
It would be appropriate to put a comma instead of the first point in the sentence. The sentence after the second dot should be capitalized. You are required to put a comma instead of a full stop after the word *I am going*, a comma before the word where you are, and then a question mark.

b) *Xayrlikech yaxshimisiz sogligiz yaxshimi. Charchamangasalim.*

A dot after *xayrlikech*, a question mark after *yaxshimisiz*, a dot after *charchamangasalim* should be placed. Since the word *asalim* comes as a motivation function, a comma must be used before it. After sentence *sogligiz yaxshimi*, a question mark is placed instead of a full stop.

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OPPORTUNITIES FOR YOUNG PEOPLE TO USE FOLK MUSIC IN THEIR ARTISTIC AND AESTHETIC DEVELOPMENT

Muqaddas Riskulovna Muminova*

*Teacher,
Jizzakh State Pedagogical Institute,
UZBEKISTAN

ABSTRACT

The education of music is rather different and complex than other field of teaching. It plays an essential role in youth. This article discusses about opportunities for young people to use folk music in their artistic and aesthetic development. The task of educating a harmoniously developed generation is to acquaint students at all stages of education with the national musical heritage of our people, thereby forming and developing a sense of national identity; a conscious attitude to national values serves as an invaluable tool in cultivating a sense of learning, appreciating, nurturing, and inheriting them. Therefore, purposeful and systematic acquaintance of young people with the national musical heritage of our people and their inculcation in their spirituality poses certain tasks for teachers and educators working in the field of music education today.

KEYWORDS: *Independence, Education Of Music, Munojot”, “Dilkhijroj”, “Tanovor”, “Lazgi”, “Bayot”, “Dugoh”, “Ushshak”, Makom, Systematic Acquaintance.*

INTRODUCTION

From the first days of independence of the Republic of Uzbekistan, attention has been paid at the level of state policy to the restoration of national and cultural heritage and the formation of national and spiritual thinking of people, especially young people, through its educational opportunities. Accordingly, as in all spheres of socio-cultural life of society, the content of music education and upbringing at all levels of education has been radically renewed. The rich musical heritage of the Uzbek people is one of the most influential and valuable factors in educating a harmoniously developed generation in the spirit of national ideas and ideology, reflecting the spirit, history, unique way of life, customs and traditions, aspirations, as well as the most advanced ideas of folk pedagogy.

President Islam Karimov said about the national cultural heritage and the importance of the ideas embodied in them in the development of society and the individual: “This treasure gives man stability in life, his views not only allow him to make a living on the path to wealth, he survives in times of tragedy, and strengthens the will in times of material hardship” [1, p. 43].

THE MAIN FINDINGS AND RESULTS

The task of educating a harmoniously developed generation is to acquaint students at all stages of education with the national musical heritage of our people, thereby forming and developing a sense of national identity; a conscious attitude to national values serves as an invaluable tool in cultivating a sense of learning, appreciating, nurturing, and inheriting them. Therefore, purposeful and systematic acquaintance of young people with the national musical heritage of our people and their inculcation in their spirituality poses certain tasks for teachers and educators working in the field of music education today. Among such tasks is to give priority to the study of Uzbek folk music heritage in music education, to improve the content of training future teachers in higher music education in the disciplines of “Traditional folk music and the basics of status” and “Uzbek classical singing”, to teach the younger generation to sing and perform national melodies, to distinguish their forms of performance, traditions, specific local styles; deep understanding of the content of the works, light shallowness, shallowness of the art entering under the influence of foreign “popular music”, dirt, the formation of immunity against music that promotes obscenity.

As noted by President Islam Karimov, “If a person's ears become accustomed to light, dull tones, it is possible that his artistic taste, musical culture will gradually decline, and his spiritual world will be occupied by false notions. In the end, it will be difficult for such a person to accept the unique masterpieces of our national heritage, such as Shashmakom, as well as the works of world-renowned composers such as Mozart, Beethoven, Bach and Tchaikovsky” [2, p. 43].

Our observations in secondary schools also confirmed how vital and valid the above points are. The questions asked to a number of secondary school students asked the majority of students about the most rare and classic examples of Uzbek national heritage – “Munojot”, “Dilkhiroj”, “Tanovor”, “Lazgi”, “Bayot”, “Dugoh”, “Ushshak”. He showed that his perceptions and perceptions about “Segohs”, “Suvoras”, and “Tanovors” were extremely unsatisfactory, and that his answers about their interest in listening and learning were sad. The main reason for this is that the qualifications of teachers responsible for music education on the heritage of folk music are not at the level of “State Educational Standards” and the theoretical knowledge and practical performance skills are not at the expected level. This shows, first of all, the need to improve the national basis for teaching music in higher education, in particular, to train personnel with deep theoretical, practical knowledge and skills in the field of folklore, classical and *makom* of the Uzbek national musical heritage.

It is known that the folklore of folk music is based on the oral tradition of the people or the work of poets, and the classical and *makom* songs are mainly based on the works of classical literature. Poetic texts, on the other hand, embody high human noble ideas, inspiring thoughts and views that lead people to perfection, and beautiful feelings. The harmony of musical tones in accordance with the text of classical and *a makom song*, which is an example of high creativity, becomes a powerful educational tool with a strong, unique and very attractive effect on the feelings of the listener. Wonderful poetic verses, enchanted by magical tones, evoke feelings of goodness and beauty in the human heart. It should be noted that folk songs (belonging to

folklore) have a musical taste, which can be accepted (sung, listened to, evaluated) by all, regardless of the level of perception. However, in order to understand, appreciate, appreciate, feel, react to, and finally perform Uzbek classical and *makom* melodies, a person must have a certain level of skills and abilities.

Classical songs are the highest product of folk music, folk art. They are polished, deepened, perfected, and perpetuated in the process of generational change, requiring high performance skills and competencies with the interpretation of styles such as unique moaning, squealing, climbing, wide range, sound polishing, and sound formation.

Classical melodies are an example of high artistic creativity, and the difference from folklore works is that the melody structure has a developed form and character, is a product of high skill and creativity of the owner of the heart; the text of the song is an example of such creativity, as well as the harmony of the text and the melody, and finally the work is performed by highly skilled, experienced and skilled artists. Such features make it necessary to thoroughly and comprehensively acquaint students with the basics of music education.

As in all disciplines, the quality and effectiveness of music education largely depends on the degree to which the system of training music teachers in higher pedagogical education is organized and the qualification of future music teachers in folk music. Therefore:

- Specific ways of performing classical and *makomart*, traditions, local styles (Surkhandarya-Kashkadarya, Bukhara-Samarkand, Creating opportunities for the acquisition of thorough knowledge and skills in Fergana-Tashkent, Khorezm);
- Providing Uzbek folklore, classics and *makom* samples with the necessary educational resources, methodical manuals, sound library, music notes, visual and technical aids on the curriculum and textbooks of secondary schools;
- Effective methods of teaching folk songs, classical and *maqom* samples, theoretical information about them, ie the creation of a unique methodological system;
- Popularization of best practices, systematic teaching of “Traditional folk music and the basics of status” and “Uzbek classical singing” in stages 1-4 and the creation of a new generation of curricula and textbooks;

CONCLUSION

It would be expedient to organize training sessions in this area in the form of lessons and extracurricular activities, so that students have a thorough knowledge and training on the heritage of folk music. The implementation of such tasks will allow future music teachers to acquire a stable interest, appreciation, study and acquisition of theoretical and necessary knowledge, skills and abilities in school activities among students.

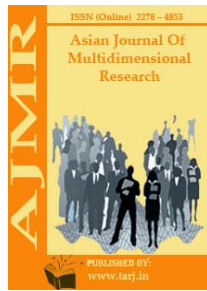
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THE IMPORTANCE OF INSTALLATION OF BASE GPS STATIONS IN PERMANENT ACTIVITY IN FERGANA REGION

**Muxarram Arabboevna Abdukadirova*;
Gulshanoy Mirzaraxmatkizi Mirzakarimova****

*Assistant Professor,
Geodesy, Cartography and Cadastre,
Fergana Polytechnic Institute,
UZBEKISTAN

Email id: muharramabdukadyrova@gmail.com

**Assistant Professor,
Geodesy, Cartography and Cadastre,
Fergana Polytechnic Institute,
UZBEKISTAN

Email id: gulshanoy081286@gmail.com

ABSTRACT

This article describes the methods of creating a National Geographic Information System at the initial stage for the installation of permanent GPS base stations under construction for Fergana region. At the initial stage of installation of permanent base GPS stations under construction in Fergana region, a high-precision satellite geodetic network point SGS-0 is operating in the territory of the Republic. It is noteworthy that the network consists of 20 points, 4 permanent reference points, and a book release point with access to the global space network and 15 periodic reference points. SGS-1 network points serve to provide all networks with GPS technology.

KEYWORDS: GPS, Geodetic Instruments, "ULTRA CAMX", GLONASS, Reference Point, Deformation, Network.

INTRODUCTION

During the years of independence, a number of positive changes have taken place in the field of geodesy and cartography. Heavy hand cocktails have been replaced by digital technologies. On September 25, 2013, the President of the Republic of Uzbekistan adopted Resolution No. PP-2045 on measures to implement the investment project "Creation of the National Geographic

Information System". In accordance with this decision of the President of the Republic of Uzbekistan, work is underway. It should be noted that geodesy has discovered new meanings during its development: modern laser and electronic geodetic instruments, modern technologies, methods of geodetic measurement and imaging, as well as methods of recalculation of measurement and imaging results. At the same time, many other engineering disciplines have relied on the help and achievements of geodesy...[7-20]

Today, the field of geodesy is equipped with the latest equipment from the United States, Switzerland, Japan and China, including GPS receivers, electronic taximeters and digital levels. Aerial photography is now being carried out with ULTRA CAMX aerial cameras from the Austrian imaging firm Vexcel. As a result, high-precision digital topographic maps and plans are being created. In accordance with the "State Target Program for the use of GPS (USA) and GLONASS (Russia) satellite navigation systems in the provision of topographic and cadastral works in the territory of the Republic of Uzbekistan", attention is paid to the creation of a new state geodetic satellite network.

Object and Methods of Research: At the initial stage of installation of permanent base GPS stations under construction in Fergana region, a high-precision satellite geodetic network point SGS-0 is operating in the territory of the Republic. It is noteworthy that the network consists of 20 points, 4 permanent reference points, and a book release point with access to the global space network and 15 periodic reference points. SGS-1 network points serve to provide all networks with GPS technology. At the same time, the fact that the state allows to detect and detect local deformations in the geodetic network creates convenience for employees of the enterprise.

RESEARCH RESULTS AND THEIR DISCUSSION

Fergana region is divided into 15 districts and 4 cities, of which, according to the initial stage of the program of installation of base stations, it is planned to install them in 7 districts and 2 cities.[1-20]. Prior to the construction of each base station, a technical design is prepared based on the terms of reference. The development of a technical design consists of identifying a set of previously performed geodetic works at the site and collecting materials on it. In this process, the following information on the complex of geodetic works should be collected:

1. Information on the inspection of points in the existing geodetic network.
2. A catalog of coordinates and heights (marks) of the base points included in the design network is created.
3. An outline and a card of the existing points are created.
4. Record the level of accuracy assessed from the report of the set of previously performed work.
5. The coordinate system of work performed on the projected object is determined.

The selected schemes and methods in the creation of the designed network are considered the degree of accuracy of satellite measurement work.

The parameters shown in Table 1 are used to create the network.

TABLE № 1

Parameters	Network creation scheme	
	Closed polygon	radial

the network class being created	3rd and 4th class of DGST, city carcass, special network, 1st class discharge	1st, 2nd discharge, shooting network
distancebetweenpoints	20 kmeach	10 kmeach

The density of the points is set according to the instructions of the network being created. During the design process, it is necessary to ensure that the points are evenly distributed across the object.

The following requirements must be observed when determining the installation location of the projected point:

1. Ensuring that measurements are performed under normal conditions.
2. Ensure that there are no strong radio waves propagating sources around the point (1-2 km).
3. There should be no obstruction in most parts of the horizon around the point and the horizon of the barrier should not exceed 15° .
4. Ensure that the point stays on for a long time.
5. Use the point at any time of the day and provide access.

When designing the measurement work, it is necessary to repeat at least 50% or 25% of the total number of identified vectors. Repeated measurements should be determined on a different day and at a different time (observation window). In addition to project control, the design of the measurement of the vectors of the base points also increases the reliability of the design. When determining the length of long vectors (20 km), meteorological parameters (temperature, pressure, humidity) are measured and recorded in the log.

If the points in the state geodetic network are 5 km away from the projected object, it should be included in the project network.

The graphic part of the project shows the base points and the points to be identified on the maps, i.e. the project network is shown in full.

An explanatory letter in the final part of the technical project, ie the following information should be fully presented.

- 1) the basis of the technical project, normative documents, the study of the geodetic network, the study of the physical and geographical characteristics of the object, the design work and the definition of the coordinate system.
- 2) The set of previous works, the name of the geodetic base points, the type of work, the year in which the organization performed the work, the accuracy assessment report and the coordinate system.
- 3) Scheme of work performed Methods of measurement work.
- 4) Technology, procedure and conditions of delivery of finished works.
- 5) Cost estimates of the designed works.

After the technical project is developed, recognition work is carried out to clarify some aspects of the project before starting field work. As a result of recognition, the exact location of the installation point is determined in accordance with the established scheme and the method of the set of works.

Sputnik must require the following conditions at the time of reconnaissance at the points of measurement:

- There should be no breakage of radio waves and obstructions around the point (trees, tall buildings, metal barriers, flat metal roofs, intensive traffic, wave reflectors, water basins, etc.).
- There should be no obstruction and stability for the tripod mounting.

The working project is based on the terms of reference before the field work on the project and recognition materials

The working design is based on the number of types of receivers used and the equalization program.

The working project includes the following set of works:

- 1) Determining the session (session) of the work performed plays an important role and is determined by the following formula.

$$S = \frac{P - O}{N - O}$$

S- Number of sessions, P- number of points, O- number of total points,

Number of N-receivers;

- 2) The geometric scheme of the projected network is determined.
- 3) The location of the reference station is determined precisely
- 4) Repeatable vectors in the network are determined
- 5) Graph the geometric location of the satellites.
- 6) The dependence of the periodicity of the session on the distance between points is shown in Table 2.

Table.№2

Measurement Methods	For the instrument to which the session duration is applied	
	A frequencyreceiver	иккичастотали приёмник
Static	30 min + 3 min / km	20 min + 2 min / km
Acceleratedstatics	-	10 min + 1 min / km

An explanatory letter on the work done on the working project shall be drawn up and shall consist of the following parts:

- 1) All points should be indicated in the project work and their scheme should be drawn up.

- 2) Creating a working plan for the facility.
- 3) Scheduling the movement of satellites during field work.
- 4) Schedule separate measurement work for points with obstacles.
- 5) Organization of work in accordance with the production technology.

Each item in the project should be given a name and code. Each item is shown a card, ie the exact location of the item. The vectors and routes between the control points are predefined. Each base point to be installed must be installed in such a part of the building that it must be easy to access. During the work of the specialist at each station, if there is a malfunction or change in the operation of the device, the specialist must have all the conditions to immediately go to the base point and repair it. To do this, the installation of steel stairs on the side of the building, as well as safety measures.

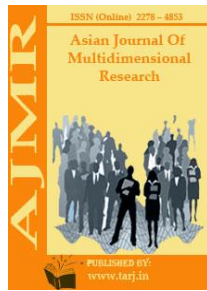
CONCLUSION

In conclusion from the above, it should be noted that permanent GPS stations should be implemented by installing 3 points in each part of the territory of the region. The main point should be located at the top of the building. On the basis of these, it will be possible to create new geodetic points, to carry out consolidation work, and in turn to achieve the formation of a unified system of state cadastres.

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INCREASING THE EFFECTIVENESS OF TAXES IN THE FORMATION OF LOCAL BUDGET REVENUES

Obid Rakhmatullaevich Meyliev*

*Associate Professor,
Department "Tax and taxation",
Tashkent Financial Institute,
UZBEKISTAN
Email id: meyliev-obid@rambler.ru

ABSTRACT

The scientific article discusses the issues of strengthening the budget capacity of local governments. The need for an in-depth study of the conceptual framework of local budget revenues and the development of practical recommendations to ensure their sustainability is mentioned. Practical proposals and recommendations is offered on the role of taxes in the formation of lo

KEYWORDS: *budget potential, inter-budgetary transfer, revenue base, local budget, local taxes, tax revenues, financial independence, local government.*

INTRODUCTION

At present, the formation of an effective mechanism by the state to regulate the socio-economic development of the country's regions is becoming important.

A new budget system has been introduced to expand the powers of the Oliy Majlis and local councils of people's deputies in the budget sphere, to further increase the responsibility of budget allocators, to ensure the freedom of local authorities in the formation and use of local budget revenues from 2020.

The Law of the Republic of Uzbekistan "On the State Budget of the Republic of Uzbekistan for 2020" stipulates that local budget expenditures must be approved by local councils of people's deputies.

The types of income that are related directly to the activities of local government and are fully at the disposal of local budgets have been expanded.

The ongoing reforms require increasing the responsibility of local authorities for the timely financing of priority expenditures and measures for socio-economic development of the regions,

non-implementation of measures of unknown origin and further strengthening of budgetary discipline.

Today one of the problems in the process of forming public finances is the formation of local budget revenues and ensuring their sustainability. In this case, economists recognize that the financial stability of local budgets depends on financial factors.

Foreign scholars James Alm, Robert D. Buschman, David L. Sjoquist say that local governments rely typically on several sources of income from private sources, including personal income tax, general sales tax, excise tax, fees and local property tax while Takaaki Masaki claims that financial transfers provided by the central government help finance the provision of public services, but they can also reduce the need for local revenue generation.

According to Y. Tumanskaya, a Russian scholar, the need to strengthen the role of local self-government and increase the effectiveness of solving problems of local importance suggests improving the system of revenue generation in local budgets, both in terms of budget management and reliability of regional revenue base assessment.

V. Markhaeva emphasizes the need to strengthen the revenue base of local budgets, expand their financial and economic base and improve inter-budgetary relations based on the implementation of the principles of budget federalism.

V. Mazina acknowledges that the local budget is a set of economic relations related to the formation and spending of funds for the current fiscal year, which are collected at the disposal of the relevant city government and used to effectively organize services to the population in local government.

S. Mishina notes that the general principles of formation of revenues and expenditures of local budgets are based on the principles of formation of the budget system and the role of state and local authorities in the economic system.

A. Penyugalova and A. Chulkov noted that this is a form of formation and spending of financial resources of the municipal government, its financial plan and the normative-legal law of local self-government bodies.

O. Kuznetsova describes the tax sources of local budget revenues as the sum of taxes paid to the budget by taxpayers independently and additionally calculated by public authorities during control measures.

T. Naydenova and I. Shvetsova acknowledges that the financial basis of local government is formed by the local budget, and the revenues of local budgets are formed at the expense of taxes and non-tax revenues, as well as non-refundable revenues.

E. Afanaseva notes that the independence of local budgets is affected directly by the parameters of the distribution of budget revenues through vertical management and inter-budgetary relations help to form independent local budgets taking into account the needs of local regions in a stable market economy.

Economists of our country have also studied the processes of formation of local budget revenues and their sustainability.

Uzbek scientists research several aspects of local taxes, for instance, A. Mamanazarov on increasing the role of taxes in the stabilization of local budgets, Kh. Kobulov on increasing the

capacity of the regional economy and local budgets, Z.Ruziev on improving the efficiency of formation and use of local budget revenues, A.Khayriddinov on ways to ensure the stability of local budget revenues, Burkhanov and Kh.Kurbanov on necessity to take a systematic approach to this issue through the development and widespread application of practical recommendations for increasing the revenues of local budgets, the implementation of measures to ensure their sustainability.

According to N. Khaydarov, it is necessary to encourage the attraction of foreign investors to increase the sources of income of local budgets and create new jobs in the regions. To do this, it is necessary to develop a list of industries and sectors in which foreign investors across the country cannot engage in entrepreneurial and commercial activities, and indicate that there is a green path to all other sectors and industries.

The views put forward by the above economists examine the current state of revenue generation and sustainability of local budgets. In our opinion, local taxes, which are the main source of local budget revenues today, cannot form fully local budget revenues. In this regard, it is necessary to study the mechanism of allocation of taxes from the republican budget and financial assistance from the upper budget to the lower budget.

In ensuring the financial stability of local budgets, it is important, first of all, to analyze the mechanism of formation of local budget revenues, the structure and share of local budget revenues, the development of comprehensive measures to increase the economic potential of regions and its rational use.

The following are identified in order to further strengthen budgetary discipline, increase the transparency of the fiscal system and increase the interest of local authorities in the implementation of budget revenue forecasts:

- Development of the medium-term budget framework for the implementation of a strategic approach to fiscal policy and the introduction of a new "results-oriented budget" system of annual budget formation;
- Increasing institutional capacity to ensure the reliability of macro fiscal forecasts and the responsibility of participants in the budget process;
- Increasing the powers and accountability of budget allocators and local government bodies in the budget sphere and strengthen their responsibility;
- Assessment of fiscal risks, accounting of financial assets and liabilities and introduction of an effective management system;
- Ensuring transparency, completeness and compliance of budget information with international standards;
- Strengthening parliamentary and public control over the budget process¹.
- Based on the above-mentioned tasks, the implementation of reforms aimed at expanding the tax authority of local authorities should be identified as an important direction in improving the tax system of the Republic. This will serve to strengthen the revenue base of local governments on the one hand, and further expand the incentive function of taxes on the other.

In the current market economy, the budget issue is a very important and complex issue. The development of each region depends on the living conditions of the population, social protection,

adequate social protection of low-income families and individuals, and the ability to address properly the financial issues of public authorities in each region. In this regard, it is important to determine the type and amount of taxes and fees to local budgets.

An important direction in improving the tax system of the country should be further clarification of the powers of various authorities on taxes and fees, and increase the powers of local authorities at the same time.

Strengthening the revenues of local budgets, stabilizing their expenditures, expanding their revenue base are main goals today. The revenue base of local budgets is related directly to the national income generated in the regions. Internal reserves for increasing local budget revenues are linked closely with the development of production in the regions, the successful implementation of economic reforms on the ground. Effective organization of the activities of local governments is one of the main requirements for the economic and social development of each region.

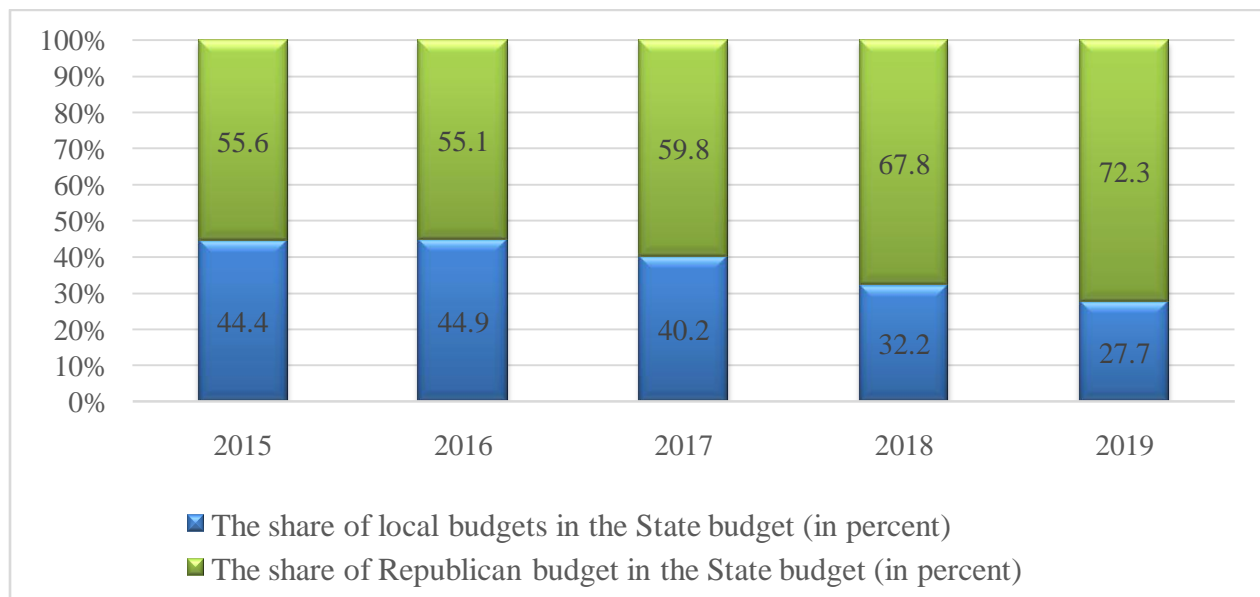


Figure 1 The role of local budgets in the state budget revenues of the Republic of Uzbekistan²

The data show that the role of local budgets in the budget of the Republic of Uzbekistan is growing. In particular, the share of the republican budget in the structure of the state budget for 2015-2019 will be 55.6%, 55.1%, 59.8%, 67.8%, 72.3% while the share of local budgets is 44.4%, 44.9%, 40.2%, 32.2%, 27.7% and their share has been declining in recent years. In practice, local taxes and fees do not allow for the full formation of local budget revenues.

From 2020, local authorities and local councils have been given a number of powers to formulate effectively and use rationally the local budget.

Respectively, the Jukorgi Kengash of the Republic of Karakalpakstan, regional and Tashkent city, districts and city Kengashes of People's Deputies:

- Regulates limited amounts of budget funds allocated from the budget of the Republic of Karakalpakstan, local budgets of regions and the city of Tashkent, budgets of districts and cities to distributors of territorial budget funds;
- Approves the forecast of revenues of the republican budget of the Republic of Karakalpakstan, regional budgets of regions, the city budget of the city of Tashkent, the budgets of districts and cities;
- Makes decisions on amendments to the budget of the Republic of Karakalpakstan, local budgets of regions and the city of Tashkent, budgets of districts and cities.

Local budgets are an important part of the state budget of the Republic of Uzbekistan and are an important source of funding for local governments. The system of local budgets allows for the full satisfaction of local needs and their implementation in close connection with the implementation of measures taken by the state in a centralized manner. Local authorities are tasked with increasing local budget revenues and saving resources.

TABLE 1 THE DYNAMICS OF INCOMES AND EXPENDITURES OF THE BUDGET OF THE REPUBLIC OF KARAKAPAKISTAN, REGIONS AND TASHKENT CITY³

mlrd.soum

T/p	Territories	Incomes		Expenditures	
		2019	2020	2019	2020
1.	The Republic of Karakalpakstan	2683,5	2 833,3	2683,5	2 833,3
2.	Andijan	1912,7	2 187,4	3292,0	2 803,6
3.	Bukhara	2266,6	2 142,3	2266,6	2 142,3
4.	Jizzakh	1106,2	1 050,8	1836,8	1 499,0
5.	Kashkadarya	3493,7	2 935,7	3493,7	3 693,8
6.	Navoi	1495,8	1 353,6	1495,8	1 353,6
7.	Namangan	1784,7	2 016,5	3096,9	2 994,2
8.	Samarkand	2270,9	2 714,8	4031,8	3 036,6
9.	Surkhandarya	1657,2	1 741,6	2872,0	2 580,7
10.	Syrdarya	736,3	751,1	1217,4	1 095,0
11.	Tashkent	3169,0	2 582,9	3169,0	2 582,9
12.	Fergana	4038,0	3 005,6	4038,0	3 357,5
13.	Khorezm	1236,2	1 402,2	2116,4	1 859,2
14.	Tashkent city	3236,2	3 556,1	3236,2	3 556,1
Total		31083,0	30 273,9	38846,1	35 387,8

The table shows that in the years under analysis, local budget revenues in some regions are less than local budget expenditures. This, in turn, creates the need for additional financial resources to finance the expenditures of the local budgets of these regions.

Although local budget revenues and expenditures in 2020 will decrease compared to 2019, the number of regions receiving financial assistance from the high budget is increasing. Local budgets are an economic opportunity for local governments. The higher the local budget revenues, the higher the welfare of the population of this region.

**TABLE 2 THE AMOUNT OF INTER-BUDGETARY TRANSFERS FROM THE
REPUBLICAN BUDGET TO LOCAL BUDGETS⁴**

T/p	Territories	mlrd. soum	
		2019	2020
1.	Andijan	1379,3	616,2
2.	Jizzakh	730,6	448,2
3.	Kashkadarya	-	758,1
4.	Namangan	1312,2	977,7
5.	Samarkand	1760,9	321,8
6.	Surkhandarya	1214,8	839,1
7.	Syrdarya	481,1	343,9
8.	Fergana	-	351,9
9.	Khorezm	884,2	457,0
Total		7763,1	5 113,9

According to the Table 2, the number of regions allocating inter-budgetary transfers from the upper budget has increased in 2020 compared to 2019. A number of regions of the country have been provided with financial resources in the form of inter-budgetary transfers to cover their expenses. In 2019, a total of 7,763.1 billion soum was allocated to the local budgets of 7 regions, and in 2020, a total of 5,113.9 billion soum was allocated to the local budgets of 9 regions, 62% of which was allocated to 4 regions: Namangan, Surkhandarya, Kashkadarya and Andijan regions. In order to ensure the financial independence of the country's regions and increase their interest in increasing their revenues, we can see that from 2020 the amount of inter-budgetary transfers to all regions has decreased.

However, the current practice of inter-budgetary regulation ensures that the bulk of some local budget revenues are generated. The presence of such a large amount of managerial income leads to a lack of sense of responsibility on the part of local authorities, which, in our view, is not very consistent with the policy of liberalization of the economy. In addition, local authorities do not make much effort to increase their income bases and economic opportunities, knowing that they will be supported by donor regions in the country and the national budget. Some regions are trying to artificially increase the amount of benefits and various social payments in order to get as much money as possible from the national budget.

Article 19 of the Law of the Republic of Uzbekistan "On the State Budget of the Republic of Uzbekistan for 2020" specifies the specifics of revenue generation of the budget of the Republic of Karakalpakstan for 2020, local budgets of regions and Tashkent city, districts and cities. Full transfer to city budgets is planned⁵:

- Property tax from individuals;
- Land tax from individuals;
- Income tax paid on the basis of the declaration on the annual income of individuals from the lease of property and paid by individual entrepreneurs;
- Tax on the use of water resources, except for the tax paid by power plants;

- Tax on the use of subsoil for building materials, with the exception of cement raw materials and limestone used in the production of cement.

The following is transferred fully to the Republican budget of the Republic of Karakalpakstan, to the regional budgets of the regions and to the city budget of Tashkent city:

- Property tax from legal entities;
- Land tax from legal entities;
- Tax on the use of water resources paid by power plants;
- Excise tax on the sale of gasoline, diesel fuel and gas to final consumers;
- Turnover tax;
- Excise tax from revenue on mobile services and alcohol products, including beer, as of July 1, 2019, respectively, in accordance with the share of the population of the Republic of Karakalpakstan, regions and the city of Tashkent in the population of the Republic.

TABLE 3 THE IMPORTANCE OF LOCAL TAXES IN THE STATE BUDGET REVENUES OF THE REPUBLIC OF UZBEKISTAN IN 2015-2019⁶ (IN PERCENT)

Indicators	2015	2016	2017	2018	2019
Without revenue from state off-budget funds – total	100	100	100	100	100
Including:					
Local taxes total	11,3	11,9	11,5	7,2	4,2
Property tax	3,8	4,0	4,3	3,3	2,1
Land tax	2,1	2,4	2,2	1,9	2,1
Landscaping and social infrastructure development tax	2,0	1,8	1,4	-	-
Tax on the use of gasoline, diesel fuel and gas	3,4	3,7	3,6	2,0	-

Indirect taxes are one of the main sources of state budget revenues in the analyzed years. In particular, the share of indirect taxes in 2015 was 52.6% and in 2019, it was 41.4% and decreased by 11.2 points in the analyzed years.

In the formation of the state budget revenues, indirect taxes are followed by direct taxes, the share of which was 24.1% in 2015 and 28.2% in 2019, a sharp increase over the past year.

The share of resource fees and property tax in the state budget revenues was 13.2% in 2015 and 17.5% in 2019, with a steady upward trend in the analyzed years.

Local taxes include property taxes, land taxes, landscaping and social infrastructure development taxes, and taxes on gasoline, diesel fuel, and gas.

It is known that today property and land taxes are recognized as local taxes. In the years under analysis, the share of local taxes, which are the source of income of local budgets, is not high.

The share of local taxes has been declining in recent years, averaging 9.2 percent in the years under review. The share of property tax was 3.8% in 2015 and 2.1% by 2019 and has been declining. The share of land tax was 2.1% in 2015 and 2.1% in 2019. As can be seen from the data in the table, the merging of the landscaping and social infrastructure development tax and the tax on the use of gasoline, diesel fuel and gas with the republican taxes has led to a decrease

in local taxes in local budget revenues. It can be seen that the possibility of forming local budget revenues only at the expense of their own revenues, local taxes, has been greatly reduced.

In our opinion, today the list of local taxes should be expanded on the basis of tax legislation to ensure the sustainability of local budget revenues.

In order to strengthen the capacity of local budgets, it is necessary not only to clearly define the structure of local taxes and fees, but also to analyze and further improve the dynamics of the share of state taxes of national importance in local budget revenues.

Regional budgets of areas and the city budget of the city of Tashkent in the following shares to the republican budget of the Republic of Karakalpakstan:

- 70% in Navoi region, 34% in Tashkent region, 5% in Tashkent city, the Republic of Karakalpakstan and others in the income tax from individuals (excluding income tax paid on the basis of the declaration of annual income from renting property of individuals and paid by individual entrepreneurs) 100 percent in the provinces;
- 34% in Tashkent region, Tashkent city (except for income tax paid by large taxpayers, non-residents of the Republic of Uzbekistan operating through a permanent establishment in the Republic of Uzbekistan, as well as income withheld at the source of payment of nonresidents) in accordance with the list approved by the President of the Republic of Uzbekistan 5 percent, in the Republic of Karakalpakstan and other regions 100 percent.

The Jogorku Kenesh of the Republic of Karakalpakstan, regional and Tashkent city Kengashes of People's Deputies:

- Distribution of taxes and other types of revenues allocated to local budgets at the appropriate level (including revenues specified in the first part of this article) and inter-budgetary transfers;
- Have the right to transfer part of the funds received from the overfulfillment of the revenue forecast to the budgets of districts and cities for the implementation of programs of socio-economic development of the regions.

The transfer of such powers will ensure the financial independence of local authorities and the stabilization of local budget revenues.

As a result of theoretical and practical study of the processes of formation of local budget revenues and analysis of the structure of local budget revenues, the following conclusions can be drawn:

1. Increasing the revenues of local budgets, local taxes and restoring the financial base of local self-government bodies on their basis;
2. In order to ensure the stability of local budget revenues, it is necessary to introduce a procedure for changing the amount of deductions from national taxes at least once every 3 years, without revising them annually;
3. The existence of a system of allocation of inter-budgetary transfers from the republican budget to local budgets means that they are subject to a high budget. This situation does not allow for the full implementation of public policy aimed at ensuring the freedom of local authorities and strengthens the dependence of local authorities.

In our opinion, ensuring the sustainability of local budget revenues indicates an increase in the interest of local governments in the development of entrepreneurship, especially in small and medium business, which will improve the financial condition of administrative units and local governments to develop their own income base.

The conceptual basis of financial independence of local self-government is that it consists of an optimal system, taking into account the interests of the population, local self-government, state and business structures. Decentralization of the budget system increases the role of local authorities in addressing the social living conditions of the population, which in turn ensures that the population has sufficient financial resources to provide priority social services and perform other functions.

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HISTORY OF UZBEK FOLK MUSIC

Otamurod Eshmirza ogliKholmirezayev*

*Teacher,
 Department of “Vocal and Instrumental Performance”,
 Faculty of “Music Culture”,
 Jizzakh State Pedagogical Institute,
 UZBEKISTAN

ABSTRACT

Uzbek folk instruments have a long history. It is believed that the first musical instruments were created in the 13th millennium BC. Percussion instruments first appeared. Because the oldest labor songs are directly related to the rhythmic structure of the work. Folk instruments have a long history. It is believed that the first musical instruments were created in the 13th millennium BC. Percussion instruments first appeared. Because the oldest labor songs are directly related to the rhythmic structure of the work.

KEYWORDS: *Instrument, History, Scholars, Works, Gijjak, Tube, Frame Drum.*

INTRODUCTION

When we look at the historical details of the Uzbek national musical art, we see how ancient and colorful its pages are. At the same time, we can understand that it is very meaningful. Our great ancestors Abu Nasr al-Farabi, Abu Ali Ibn Sino, Al-Beruni, Umar Khayyam, Abdurahman Jami, Alisher Navoi, who were brought up in our country, have made a great contribution not only to the music culture of the peoples of Central Asia, but also to world civilization. Many scholars who have been directly involved in Uzbek music culture have expressed differing views on the history of the art of playing the instrument. In any case, today we must say that in Central Asia, especially in Uzbekistan, we have the most ancient heritage of various types of musical instruments and music.

Folk instruments have a long history. It is believed that the first musical instruments were created in the 13th millennium BC. Percussion instruments first appeared. Because the oldest labor songs are directly related to the rhythmic structure of the work.

Then emerged the noisy instruments; the performers applauded the rhythm. The applause of the female performers created a unique, unique and beautiful mood.

Later, folk craftsmen made trumpets, whistles, and finally reeds from reed or bamboo stalks. Over time, those instruments became more sophisticated. Later came stringed instruments and stringed bows. They were used in the ceremonies of the palace servants, in military campaigns.

THE MAIN FINDINGS AND RESULTS

Uzbek folk instruments were formed in the embrace of the culture of the ancient East. They have retained their original features over the centuries of development. Due to its unique structure, tube, tube of oboe, tanbur, dutor, rubob, gijjak, and kabuz have come down to us in traditional forms.

We all know that in one of the museums of Samarkand the ancient flute was created five thousand years ago.

This unique and beautiful flute, which testifies to the high level of our musical culture and the art of music in the distant past, was in the hands of shepherds three thousand years ago, or in the hands of masters and legendary flute musicians.

During the period of slavery, there were Marakand, Nisa, Tuproqala, Termez and other cities. Excavations in these cities have uncovered artifacts depicting various instruments. Slavery was an important stage in the development of the culture of the peoples of Central Asia. As folk music grew, so did the instruments.

Folk instruments have become an integral part of human life, embedded in the life and work of the people of Central Asia. We know that songs, games and melodies accompanied by musical instruments were performed at large public ceremonies and family celebrations, which were mostly associated with the seasons. A variety of musical instruments, such as trumpets, doira, drums, and percussion, are widely used in our festivals and cultural ceremonies. Folk dances actually include eyebrow-raising and shoulder-playing. They were also performed to applause.

One of the distinctive features of medieval music culture was that the musicians not only played several types of musical instruments, but also composed their own music. The musicians were also great musicians and poets of their time, and in the Middle Ages, musical specialization led to the emergence of specialized music workshops. Here the tradition of teacher-disciple was established and developed. At the same time, the ensemble's performance has improved, the main forms of musical art have been formed, and the discovery of new musical instruments has a long way to go.

The legacy of the great thinkers of the East has historical value in the study of folk instruments. The famous work of Abu Nasr Muhammad Farobi "The Great Book of Music" ("Kitab al-musiqa al-kabr") is of great importance. In this book, the medieval scholar distinguishes between two types of musical performance: the resonance of melody in the human voice (the art of singing) and the playing of musical instruments. As a talented performer, Farobi focused on the study of the role of musical instruments in society, and said, it was written.

Faroobi also describes Nain. He classifies various wind instruments according to the principle of sound formation, which means that sound is created by the wind movement of the air on the flute. One of them is a simple reed or a multi-hole reed in one direction, which still exists among the peoples of the East.

The scientist often mentions a common trumpet made of apricot or mulberry trees.

Faroobi also mentions dunay (mizmar). The Danube is similar to the modern neighboring or Turkmen folk instrument gosha - dillatyuybyuk (an instrument made of reed tubes).

The human voice has long been considered the most perfect instrument. Performers of stringed or stringed instruments have always strived to bring the melody of their compositions closer to the human voice, to achieve a unique musicality, to make the melody more effective, efficient and smooth. The drums included a flute and a trumpet.

At that time, SayfiddinUrmavi, a well-known thinker of the East, developed a system of musicology. He was known as a master oud player, singer and composer. Based on his experiments on the oud, the scientist explained his theoretical principles. In the Urmavi Book of Piety, the definition of *ud* begins with the following words. "It should be noted that among the musical instruments there were 7 times the status (*ladi*) in the order called oud.

Darwish Ali, like his predecessors, called the *ud*, which is considered the best in terms of vibration, among the stringed, mizrob instruments, the "horn" of the instruments. *Ud* had twelve pairs of tunes. It was slightly different from the first oud of the Faroobi period. According to Darwish Ali, the lower range (bass register) of the sixth melody has been expanded.

According to the brochure, he is the patron saint of dusty instruments.

The described powder had twenty-six strings and seven curtains for the twenty-sixth performance of the seven *makoms*. The flute is mentioned as one of the oldest instruments. In addition, the pamphlet mentions such instruments as kanun, rubab, kabiz, gijjak, musikor, enbonnay (blew, leather), and ruhavaz (six-stringed nohunli), which are widespread in China.

Gijjak player ShoxKuliy - Gijjakiy was a master artist who showed great performance skills on this musical instrument and created musical melodies.

Tube player mentions Sultan Ahmad as a famous musician by Darvish Ali. According to the author of the pamphlet, the magical melodies of the flute he played made a deep impression on music lovers.

Ud musician Sultan Muhammad UddiySamarkandi is portrayed by the author as a uniquely talented musician and composer.

Ali ShunkarDugoh, one of the most prominent performers of folk instruments, is known as the composer of the centuries when the rhythm of Turkish percussion was created. His "sabtibegumiy". "Naqshibegumiy" (painted melodies) are very popular among the people.

The treatises of NajmiddinKavkabi and Darvish Ali mention the names of composers who composed music based on twelve maqams (Rahavi, Husseini, Zangula, and Buzruk).

MawlanaTehsi - Gileksi ibn Abdurahmoni - Rumi (rud), UstadZaytuni - Gijjaki, Khoja MahmudbekIsohkiShekhini (dutor) Sayyid Ahmad - bin MehtariyMuzakki, UstadQurbonSa'di, UstadPoyon drum), Master - Amir - KuliyTanburi (tanbur), Sheikh Ahmadi Qobizi (kabiz), a great scholar of music theory, a leading representative of the musical art of his time Amir MastiHiroti (kabiz), Yusuf MawludnidutoriHiroti (dutor), UstodGulokiyNayiUstodAbdusattor - Qanuni, Hafiz BoboyQanuni, Hafiz TurdiQununi and other performers of folk instruments played an important role.

CONCLUSION

Darwish Ali spoke about the importance of *makoms*, a multi-part musical series performed by the great folk musicians of that land. The works of medieval Eastern scholars provide sufficient historical information about musical instruments, the spiritual and cultural environment they created, but they contain very little information about the technical and artistic potential of this or that folk instrument. According to the pamphlets, the performers developed a theory of music based on specific performance practices and described the existing forms of instruments.

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COMPARATIVE STUDY OF THE TOTAL PROTEIN AND FREE AMINO ACIDS OF PLANTS URTICA DIOICA AND CRATAEGUS PONTICA

Raimova K.V*; Berdiev N.Sh**; Ishimov U.Zh***; Turdieva Z.V****;
 Abdullajanova N.G*****; Matchanov A. D*****

*PhD Student,

^{2,3}Senior Researcher,

^{5,6}Doctor of Chemical Sciences, professor,

Institute of Bioorganic Chemistry named after A.S. Sadykov of the Academy of Sciences of the Republic of UZBEKISTAN

****Associate Professor,

Tashkent Pharmaceutical Institute,
 UZBEKISTAN

ABSTRACT

The common proteins and amino acids of the Urticadioica plant and Crataeguspontica have been studied and compared. Stinging nettle raw material was collected during the flowering period in early June 2019 in the Bakhmal region. The raw material of Pontic hawthorn was collected during the flowering period in early May 2019 in the Gazalkent district of the Tashkent region. Total protein was determined by the Kjeldahl nitrogen method. The total protein content in the aerial part of the Urtica dioica L plant was 1.184%, and in the Crataegus L plant, 0.425%. The essence of the method consists in the decomposition of the organic matter of the sample with boiling concentrated sulfuric acid with the formation of ammonium salts, the conversion of ammonium into ammonia, its distillation into an acid solution, quantitative accounting of ammonia by the titrometric method and the calculation of the nitrogen content in the material under study. The amino acid composition was also studied; the synthesis of FTC (phenylthiocarbomail) derivatives of free amino acids was carried out according to the method of Steven A., Cohen Daviel. Results of the qualitative and quantitative determination of the amino acid composition. An aqueous extract of the Crataegus L plant contained 19 free amino acids with a total content of 0.25%, and in an alcoholic extract 20 amino acids with a total content of 0.73%. In an aqueous extract of the plant Urtica dioica L, 17 free amino acids with a total content of 0.086% were found, and in an alcoholic extract 17 amino acids with a total content of

0.196%. The content of free amino acids in leaves in alcoholic extracts of the *Crataegus L* plant is relatively predominant in alcoholic solutions, and the total content is 0.72%.

KEYWORDS: *Crataegus L, Urtica Dioica L, Proteins, Amino Acids.*

INTRODUCTION

Nettle (*Urtica dioica L.*) has a long history of wild-caught and human consumption. Although not fully domesticated, the species remains popular even today for food and medicine, as reported, for example, in Nepal and Poland [1,2].

Although the *U. Dioica* plant is recognized as an edible and highly nutritious plant, research attention has focused more on its importance in non-traditional medicine. Clinical trials have confirmed the efficacy of nettle root in the treatment of benign prostatic hyperplasia. Dried nettle leaf preparations have also been shown to relieve symptoms associated with allergic rhinitis [3].

Urtica dioica has been reported to have various pharmacological properties such as: antibacterial, antioxidant, analgesic, anti-inflammatory, antiviral, immunomodulatory, hepatoprotective, anti-colytic and antitumor effects. The authors summarize information on ethnopharmacology, phytochemistry, biological activity and toxicological summary of *Urtica dioica* [4,5].

Nettle herb contains flavonoids, phenolcarboxylic acids (caffeoyl malic, caffeic, chlorogenic), tannins, amines, sterols, carotenoids, glucoquinones, enzymes, polysaccharides, hydroxycoumarins, vitamins of group B, C, K macro - and microelements. In the leaves, rhizomes and seeds of stinging nettle, 12 amino acids were identified, the total content of which ranges from 0.23 to 13.5%. The leaves are dominated by aspartic acid, threonine, serine, alanine, and in the roots - aspartic acid, threonine, serine [6].

Amino acids are one of the most natural universal regulators of metabolism and vital activity of the human body. Compounds of this class are essential elements of normal human and animal nutrition [7].

In tinctures of stinging nettle, 18 amino acids were identified. The content of the sum of free amino acids in HMO (homeopathic matrix tinctures) is from 0.02 to 0.21% bound - from 0.03 to 0.29%, it was found that it is higher in HMO from fresh raw materials than in those from dried. When comparing the content of amino acids before and after hydrolysis, it was found that amino acids in HMO are predominantly in a free state. The discovered compounds can contribute to the pharmacological action of medicinal plants and nettle preparations [8].

To determine amino acids in medicinal plant raw materials, a method was developed for the separation and determination of the amount of free amino acids in aqueous extracts from medicinal plant materials by TLC (using the example of sea buckthorn fruits and stinging nettle leaves). The set of amino acids is individual for each type of plant material, and also depends on the method of its conservation; this chromatographic profile for amino acids can be used to standardize raw materials [9].

Pontic hawthorn (Genus *Crataegus L*) is represented by 15 species, but many of them differ in very insignificant characters. The fruits of many species of hawthorn are used by the population to one degree or another, but the most important is the Pontic hawthorn (*Crataegus. Pontica C. Koch.*) Or "duliana" [10]. Hawthorn is a well-known food and medicine. Since ancient times, it has been used as an effective medicine. Ancient medicine believed that when taken orally,

hawthorn fruits are very nutritious, strengthen, reduce the excitement of bile and high blood pressure, relieve nausea, strengthen a hot stomach and liver, treat urine drop by drop, treat chronic abdominal diseases and diarrhea. In folk medicine, hawthorn fruits are used as a remedy for fatigue, to improve brain function, for headaches, dizziness, and bronchial asthma. The immunomodulatory, antiallergic, antimutagenic and antitumor properties of hawthorn were also determined. Hawthorn fruits contain 20% sugar, 8% oils, vitamin C, organic acids. They have many medicinal properties. Hawthorn is widely used in cardiological practice. It has been determined that hawthorn fruits have antiarrhythmic, cardiogenic effects, and improves coronary circulation. Hawthorn contains vitamins A, C, E, K, B vitamins, various minerals, essential oils, tannins, glycosides, organic acids, flavonoids, and others [11].

Amino acid and fatty acid compositions of the fruits of the hawthorn *Crataegus pentagyna* Waldst et Kit as the most valuable for use as a dietary supplement. In the protein component of hawthorn fruits, 16 amino acids are quantitatively determined. A high content of such essential amino acids as lysine, threonine, valine, methionine, leucine, isoleucine, phenylalanine was noted. Including the sum of essential amino acids is 296.1 mg / 100g [12,13].

Based on the abovementioned things, a comparative study of the composition of the total protein and free amino acids of plants *Urtica dioica* and *Crataegus pontica* growing in the mountainous and foothill regions of the Republic is an interesting and urgent task.

The aim of this work is a quantitative study of the protein and amino acid composition of extracts from plants *Urtica dioica* and *Crataegus pontica*.

MATERIALS AND METHODS

Stinging nettle raw material was collected during the flowering period in early June 2020 in the Bakhmal district of the Jizzakh region. The raw material of Pontic hawthorn was collected during the flowering period in early May 2020 in the Gazalkent district of the Tashkent region. The aerial parts of dioecious nettle and Pontic hawthorn were dried under a canopy. Both raw materials were accurately weighed and extracted with chloroform. The extraction was carried out in a water bath equipped with a reflux condenser for 5-6 hours at a temperature of 40 ° C. The extraction process was repeated 3-4 times until the complete extraction of lipophilic compounds and chlorophyll. Then the resulting raw material was dried in air until the chloroform completely evaporated. The dried raw material was extracted in 40% ethyl alcohol in the ratio of raw material and extractant 1: 5, respectively. This process was repeated twice. Then the extraction was concentrated on a rotary evaporator to a remainder of 1/3 of the initial weight. Distilled water was added to the residue, which was obtained after alcohol extraction (meal). Further, all processes were carried out as in alcohol extraction. At the end, two extractions were dried in a freeze dryer. Thereafter, the protein was determined by the Kjeldahl nitrogen method. The essence of the method consists in the decomposition of the organic matter of the sample with boiling concentrated sulfuric acid with the formation of ammonium salts, the conversion of ammonium into ammonia, its distillation into an acid solution, quantitative accounting of ammonia by a titrimetric method and calculation of the nitrogen content in the material under study.

The synthesis of FTC (phenylthiocarbonyl) derivatives of free amino acids was carried out according to the method of Steven A., Cohen David. The results of the qualitative and quantitative determination of the amino acid composition are shown in table No. 1

RESULTS AND DISCUSSION

The method consists in the determination of nitrogen according to Keldal with subsequent conversion to protein.

From the averaged milled homogeneous sample of the investigated defatted meal of cotton seeds for analysis, weighed in a test tube an exact sample, with an error of no more than 0.1%. The weighed portion was quantitatively transferred into a Keldal flask. Further experiments were carried out according to methodological instructions [1].

Processing of the results: The mass fraction of nitrogen (X) in the test sample as a percentage of its mass during the distillation of ammonia into sulfuric acid was calculated by the formula

V_0 is the volume of 0.1 mol / l sodium hydroxide solution consumed for titration of 0.05 mol / l sulfuric acid in the control experiment, ml. V_1 is the volume of 0.1 mol / l sodium hydroxide solution consumed for titration of sulfuric acid in the test solution, ml; K - correction to the titer of 0.1 mol / l sodium hydroxide solution;

0.0014 is the amount of nitrogen equivalent to 1 ml of 0.05 mol / l sulfuric acid solution;

M is the weight of the sample, g. The arithmetic mean of the results of five parallel tests was taken as the final test result. Results were calculated to the third decimal place and rounded to the second decimal place.

The mass fraction of nitrogen in terms of dry substance of the product (X3), in percent, was calculated by the formula:

X1 - mass fraction of nitrogen in the test sample,%; W is the moisture content of the test sample,%.

The mass fraction of protein (Y) in percent was calculated by the formula: $Y = K CHX$, where K is the conversion factor of nitrogen to protein: with a moderate lipid content - 6.38;

HPLC analysis of PTK amino acid derivatives. The synthesis of FTC (phenylthiocarbonyl) derivatives of free amino acids was carried out according to the method of Steven A., Cohen Daviel.

The identification of FTC amino acids is carried out on an Agilent Technologies 1200 chromatograph on a 75x4.6 mm Discovery HS C18 column. Solution A: 0.14M CH₃COONa + 0.05% TEA pH 6.4, B: CH₃CN. Flow rate 1.2 ml / min, absorption 269nm. Gradient% B / min: 1-6% / 0-2.5min; 6-30% / 2.51-40min; 30-60% / 40.1-45min; 60-60% / 45.1-50min; 60-0% / 50.1-55min.

TABLE 1 QUANTITATIVE CONTENT OF FREE AMINO ACIDS IN AQUEOUS AND ALCOHOLIC SOLUTIONS OF PLANTS CRATAEGUS L, URTICA DIOICA L

Amino acids	<i>CrataegusL</i>		<i>UrticadioicaL</i>	
	aqueous	alcoholic	aqueous	alcoholic
	concentrationmg/ml			
Asparagineacid	0,00964	0,19737	0,03175	0,15923
Glutamineacid	0,07214	0,27061	0,06917	0,25959
Serine	0,06039	0,24854	0,03517	0,09715
Glycine	0,10225	0,37282	0,01563	0,08116
Asparagine	0,10423	0,37825	0,01725	0,08321

Glutamine	0,41046	0,49105	0,18345	0,23034
Cysteine	0,23415	0,32254	0,05285	0,18822
Threonine	0,09178	0,36043	0,08121	0,10550
Argentina	0,30738	0,94917	0,09733	0,11620
Alanine	0,19361	0,47826	0,09420	0,09662
Proline	0,22027	1,07128	0,01725	0,08364
Tyrosine	0,15819	0,26663	0,03555	0,10295
Valin	0,12212	0,95587	0,00908	0
Methionine	0	0,24054	0	0
Isoleucine	0,05491	0,17412	0,04370	0,08574
Leucine	0,03285	0,15471	0,04741	0,09716
Histidine	0,12821	0,19725	0	0
Tryptophan	0,08725	0,11960	0	0,02898
Phenylalanine	0,08263	0,03872	0,02759	0,08650
LysineHCl	0,01241	0,00310	0,00212	0,06046
General	2,4851	7,2909	0,8607	1,9627

From the data given in table 1. It can be seen that some amino acids are absent, for example: valine was not detected in an alcoholic solution of nettle, but its content in the aqueous extract was 0.12212 mg / ml. In the alcoholic extract of *Crataegus L*, the valine content is relatively high and amounts to 0.955871 mg / ml, and in the aqueous extract of the *Urtica dioica L* plant, the valine content is one hundred times less and is 0.00908 mg / ml.

The absence of methionine is observed in the extracts of the aerial part of the plant *Urtica dioica L* and in the extract of the plant *Crataegus L*. The content of the alcoholic extract is 0.24054 mg / ml.

According to the literature, in nettle leaves, the total amino acid content ranges from 0.23 to 13.5%, and in our case, its content in the leaves is 0.196%. But in an aqueous solution of *Urtica dioica L*, 17 free amino acids were found with a total content of 0.086%. Amino acids are well extracted in alcohol solutions. In the leaves of nettle in an alcohol solution, the content of aspartic acid is 0.016%

The absence of histidine was observed in the composition of the plant *Urtica dioica L* and in the plants of *Crataegus L*. The alcoholic extract was 0.019%, and in the aqueous extract it was 0.013%.

Tryptophan was not detected in the aqueous extract of the nettle plant, but in the alcoholic extract of 0.02898 mg / ml. In the alcoholic extract of hawthorn plants, the tryptophan content is 0.11960 mg / ml, and in the aqueous extract 0.08727 mg / ml,

The amino acid glycine was found in all samples, and the highest content in the aqueous extract of hawthorn was 0.37282 mg / ml. In nettle with an alcoholic extract 0.08116 mg / ml, in an aqueous extract 0.01563 mg / ml. In hawthorn with alcohol extract 0.102215 mg / ml.

As can be seen from the data in Table 1, glutamine, serine, glycine, aspartic acid, threonine, alanine, arginine, cysteine, proline, and valine predominate in the leaves in the alcoholic extracts of the *Crataegus L* plant. The total content is 0.72%.

Thus, studying the content of total protein and free *Crataegus L* and *Urtica dioica L* amino acids, the following conclusions can be drawn.

CONCLUSIONS

The total protein content in the aerial part of the *Urtica dioica L* plant was 1.184%, and in the *Crataegus L* plant, 0.425%.

In the water extract of the *Crataegus L* plant, 19 free amino acids with a total content of 0.25% were found, and in the alcoholic extract 20 amino acids with a total content of 0.73%.

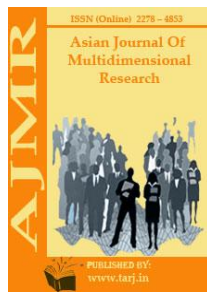
In an aqueous extract of the plant *Urtica dioica L*, 17 free amino acids with a total content of 0.086% were found, and in an alcoholic extract 17 amino acids with a total content of 0.196%.

The content of free amino acids in leaves in the alcoholic extracts of the *Crataegus L* plant is relatively prevalent in alcoholic solutions, and the total content is 0.72%.

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DEVELOPMENT OF DEFORMATIONS IN THE REINFORCEMENT OF BEAMS WITH COMPOSITE REINFORCEMENT

Shodiljon Abdugofurovich Umarov*

*Fergana Polytechnic Institute,
Fergana, UZBEKISTAN

Email id: Sh.Umarov@Ferpi.Uz

ABSTRACT

This Article Describes The Results Of Experimental Research On Flexible Concrete Beams Equipped With Fiberglass Composite Reinforcement Instead Of Traditional Steel Reinforcement Used In Construction, Which Provides Information On The Development Of Exertion And Deformations In Composite Reinforcement Under Load.

KEYWORDS: Composite Reinforcement, Exertion, Deformation, Concrete, Load, Bending Moment, Transverse Force.

1. INTRODUCTION

Currently, The Use Of Composite Fittings In Construction Increases The Overall Reliability, Technical And Economic Efficiency Of Industrial, Residential, Public Buildings And Engineering Structures To Receive Permanent, Temporary And Seismic Stresses.

The Use Of Flexible Elements Reinforced With Composite Reinforcement In Industrial, Residential, Public Buildings And Engineering Structures Requires A Scientific Basis Based On A New Theory, Confirmed By The Results Of Experimental Studies.

1.1. METHODS

Experimental Studies Were Conducted On Rectengular Sample Test-Model Beams, Dimensions 16x30 Sm, Made Of Heavy Concrete Of B20-B30 Class Based On Portland Cement. Composite Reinforcements As 2ø12 Or 2ø16shka Were Placed In The Elongated Area, 2ø10shka In The Compressive Area Of The Beams As A Working Reinforcement, Ø4 Or Ø8shka Reinforcements Were Placed In 15 (10) Cm Increments As Clamps. The Sample Beams Were Tested For Bending On A Specially Prepared Stand. The Two Accumulated Forces Were Transmitted Using A Hydraulic Jack. The Distance From The Base To The Force Was 40 Or 70 Cm, And The Length Of The Net Bending Area Between The Forces Was 70 Cm. The Beams Were Tested

Until They Were Broken By A Gradual Increase With 0.05-0.1 Q_{ult} Loads. During The Test, All The Main Parameters Of The Beams Were Recorded Using Measuring Instruments.

Deformation Of Longitudinal Reinforcement Along The Length Of The Sample Beams Is Unevenly Distributed Under The Influence Of Forces In The Bent Concrete Elements With Composite Reinforcement. (Figures 1,2).

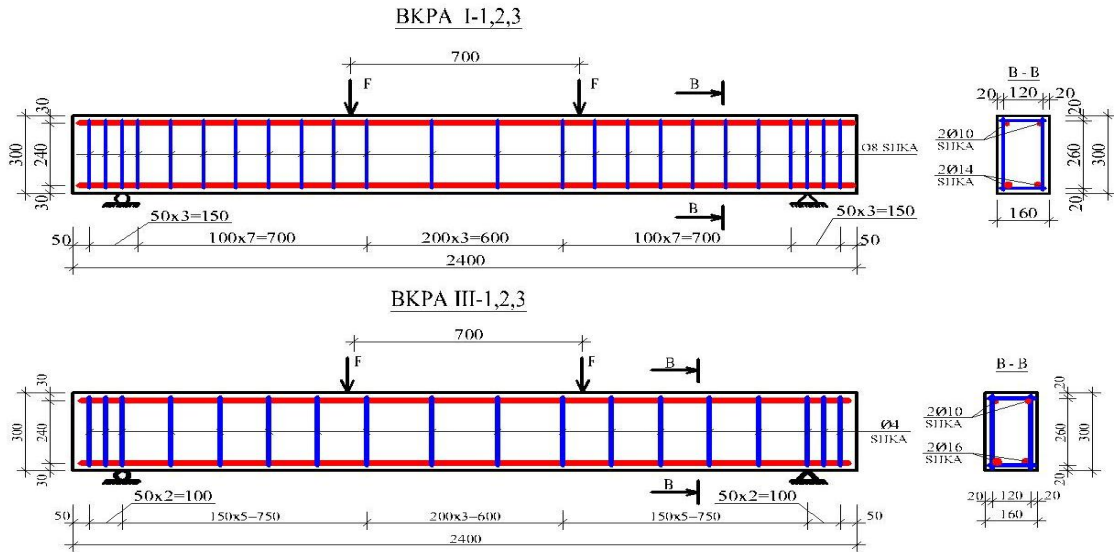


Figure 1. Armature And Loading Schemes Of Sample Couplings In Series I,lii

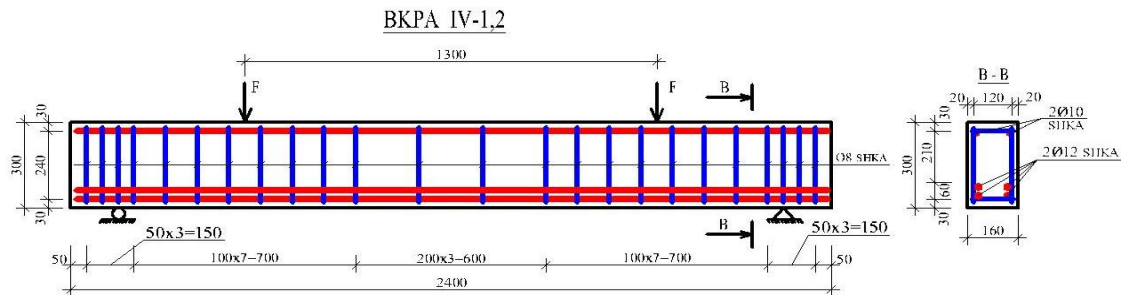


Figure 2. Armature And Loading Schemes Of Sample Couplings In Series Iv

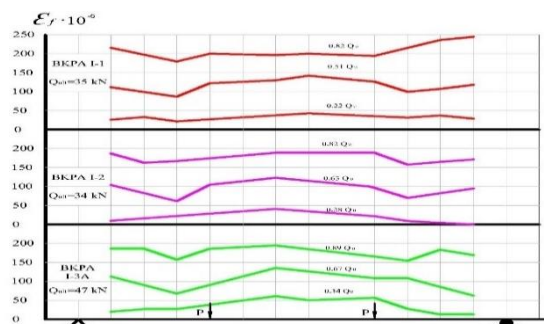


Figure 3. Distribution Of Deformations Of Longitudinal Elongated Reinforcement Along The Length Of Sample I-Series Beams With Reinforcement Coefficient $\mu_f = 0,64\%$ With Longitudinal Elongated Reinforcement.

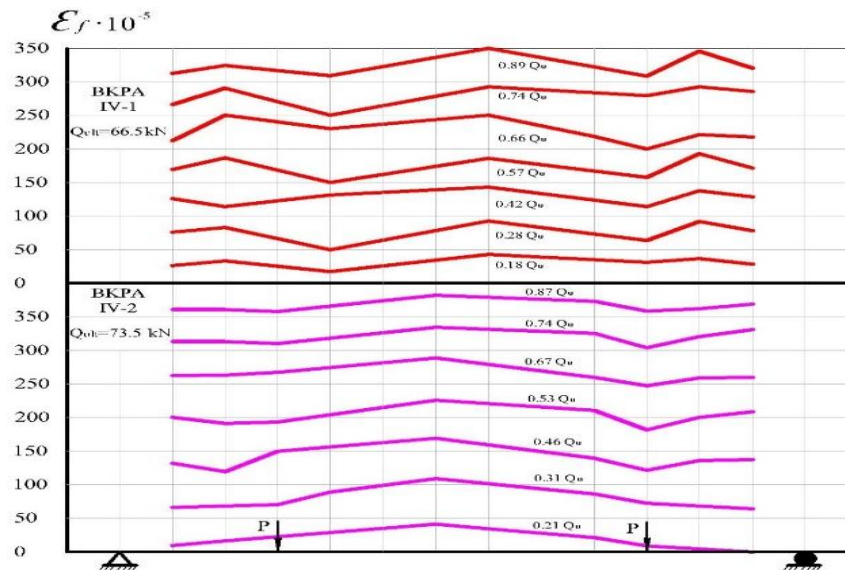


Figure 4. Distribution Of Deformations Of Longitudinal Elongated Reinforcement Along The Length Of The Sample Beams Of Series Iv With Reinforcement Coefficient $\mu_f = 0,94\%$ With Longitudinal Elongated Reinforcement.

In Composite Reinforced Concrete Elements, The Deformations Of The Longitudinal Reinforcement Are Unevenly Distributed Along The Length Of The Sample Beams Under The Influence Of Forces (Figures 3, 4).[8-25].

Deformation Increases Proportionally With Increasing Load Until Cracks Are Formed In The Longitudinally Elongated Reinforcement. In This Case, The Values Of Deformations In The Net Bending Area Were Slightly Higher Than In The Shear Range Affected By The Transverse Forces. Deformations In The Longitudinal Reinforcement Began To Increase More Rapidly After The Formation Of Normal Cracks In The Longitudinal Axis Of The Section In The Elongated Areas Of The Beams. This Was Especially Evident At The Intersections Of The Reinforcement Cracks. Before Normal Cracks Were Formed, The Deformations In The Longitudinal Reinforcement In The Pure Bending Area Were 2-3 Times Greater Than In The Shear Interval.

For Example, While In Series I Beams, The Deformations Of The Longitudinal Working Reinforcements Before The Formation Of Normal Cracks In The Area Of Pure Bending Were $\varepsilon_f = (44 - 46) \cdot 10^{-5}$, Deformations In Shear Range On The Same Reinforcements Were $\varepsilon_f = (15 - 25) \cdot 10^{-5}$. In Series Iv Beams, The Deformations Of The Longitudinal Working Reinforcements In The Area Of Pure Bending Equaled To $(42-44) \cdot 10^{-5}$, And In The Shear Range Was $(12-25) \cdot 10^{-5}$ (Figures 5,6). The $Q=(0,18-0,21)Q_{ult}$ values Of The Loads Correspond To This Case.

After The Formation Of Normal Cracks In The Sample Beams Relative To The Longitudinal Axis Of The Cut, The Deformations In The Longitudinal Working Reinforcements Increased To $(150-220) \cdot 10^{-5}$ In The Pure Bending and To $(50-100) \cdot 10^{-5}$ In The Shear Areas.

The Formation Of Sloping Cracks Also Led To An Increase To $(150-250) \cdot 10^{-5}$ in Deformations In The Longitudinal Working Reinforcement Even In The Cutting Range.[1-18]

The Subsequent Increase In Loads Led To A Slight "Flattening" Of The Deformations Of The Longitudinal Working Reinforcement Along The Length Of The Beams. Thus, As The Loads Increase, The Deformations In The Longitudinal Working Reinforcements Also Increase. Deformations Of Longitudinal Working Armatures Were Found To Be In The Range Of $(300-400) \cdot 10^{-5}$ When The Amount Of Loads Was In The Range Of $(0.8-0.9)Q_{ult}$. According To The Results Of The Measurements, Stresses (80-120) Mpa Are Formed In The Longitudinally Elongated Flexible Fittings Before Cracks Are Formed. The Average Relative Deformations Of The Elongated Working Flexible Reinforcements In The Area Of Pure Bending Increase Continuously According To The Curvilinear Pattern As The Amount Of Load Increases, With A Faster Increase, Especially At High Values Of Load

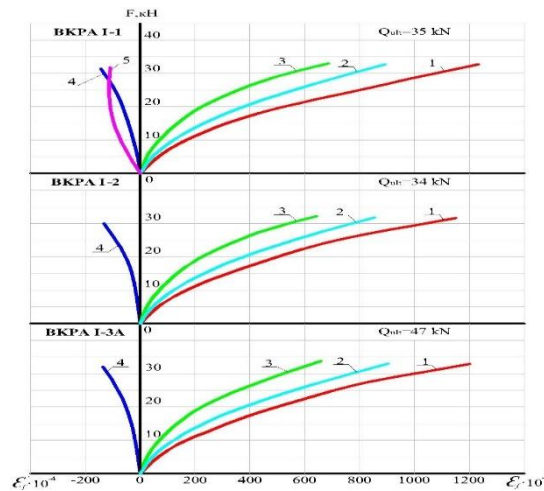


Figure 5. The Average Relative Deformations Of The Beams Of The Sample Beams Of The I-Series: 1 In The Areas Of Pure Bending Of The Elongated Working Armatures; 2.3 In The Cutting Range Of Elongated Working Fittings; 4 In The Pure Bending Areas Of The Compression Fittings; 5 In The Cutting Areas Of Compression Fittings;

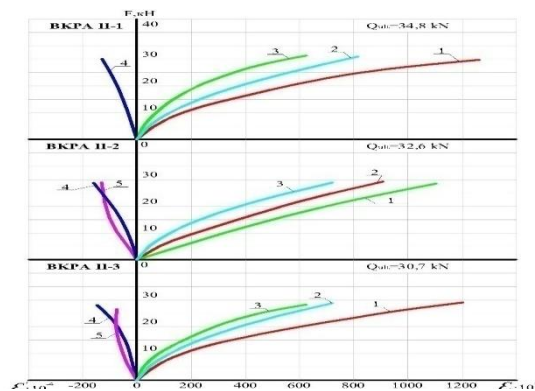


Figure 6. The Average Relative Deformations Of The Armatures Of The Sample Beams Of Series II: 1 In The Areas Of Pure Bending Of The Elongated Working Armatures; 2.3 In The Cutting Range Of Elongated Working Fittings; 4 In The Pure Bending Areas Of The Compression Fittings; 5 In The Cutting Areas Of Compression Fittings;

RESULTS AND DISCUSSION

It was observed that when the amount of load is close to the breaking forces, the deformations in the reinforcement reach values as $(1000-1200) \cdot 10^{-4}$. From the graph it can be determined that in such cases the tensile stresses in the fittings are 600-650 Mpa. [1-8].

The deformations of the beams in the elongated longitudinal reinforcement in the shear range were 1,2-1,5 times less than in the pure bending areas. In these reinforcements, a sharp increase in deformations was observed only when the largest loads were applied, i.e. before the boundary condition occurred in the girder, and the beams approached the deformations of the reinforcement in the areas of pure bending.

The load on which the deformations are applied in the compressive longitudinal reinforcement increased slightly along an almost straight line until the culvert values $(0,4-0,6) Q_{ult}$ were reached. As a result of the subsequent increase in loads, the graph began to change along the curve, and a slight increase in deformations was observed. Compression deformations up to the values $\varepsilon_f' = (100 \div 150) \cdot 10^{-4}$ were observed in the reinforcement in the compression area when the beam samples were close to the distortion (see figures 4,5). From this it can be concluded that in the boundary conditions in the compressive longitudinal reinforcement it is found that the formation of stresses exceeding $\sigma_f' = 100 \text{ Mpa}$.

CONCLUSIONS

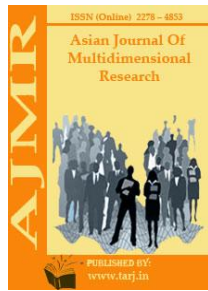
1. The nature of the stress-strain state of flexible concrete beams reinforced with fiberglass composite reinforcement under loads, the development of deformations in the longitudinal elongation and compression was found to be qualitatively the same as that of steel reinforced flexible reinforced concrete elements.
2. The maximum deformations formed in the longitudinal elongated reinforcement indicate that they have developed tensile stresses in quantities that reach the calculated resistance of the composite reinforcement. Deformations in the compressive longitudinal reinforcement reached values $(300-400) \cdot 10^{-5}$. Deformations of the concrete compression field indicate the formation of stresses equal to the compressive strength of the concrete.

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FORMATION OF AN ELECTRONIC DATABASE OF UZBEK GRAMMATICAL TERMS IN THE EDUCATIONAL CORPUS

Sultonova Sh*

*Teacher,

Department of “English Language”,

Tashkent State University of Uzbek Language and Literature named after A.Navoi,
 UZBEKISTAN

Email id: sultonova.shaxnoz0908@gmail.com

ABSTRACT

This article deals with working on the dictionary, systematization of grammatical terms, study of aspects related to grammatical terminology, semantic directions of grammatical terms in morphology and syntax. The impact of the electronic dictionary macrostructure on the structure, size and nature of the dictionary is also considered. Suggestions and recommendations for the formation of an electronic database of grammatical terms will be developed in the educational corpus.

KEYWORDS: *Electronic Dictionary, Linguistic Information, Dictionary Content, Terminology, Fragment, Semantic Direction, Corpus, Electronic Database.*

INTRODUCTION

In world linguistics, the process of adaptation to modern information technologies is extremely rapid. In particular, “Computer Linguistics” has achieved certain success in Western linguistics, Russian linguistics, and even Turkish and Kazakh linguistics. With the advent of computer technology, software developers have created a new type of dictionary - the electronic dictionary. This type of dictionary was an entirely new phenomenon in the history of lexicography, marking a new qualitative stage of its development. Now, electronic dictionaries remain in the shadow of paper dictionaries, and the need to create electronic content for a language platform is growing. Indeed, electronic dictionaries have a number of obvious and important advantages over traditional dictionaries. Their only drawback is that they are dependent on a personal computer and are therefore relatively limited. However, while this shortcoming is not complete, at least it will soon be remedied due to the increasing pace of computerization, including the availability of laptops.

Another advantage of electronic dictionaries is that they can be searched simultaneously not only for the title of the dictionary article, but also for the entire large volume of dictionaries that are far from the truth in the paper version. Such a study creates a multidimensional portrait of the word, as well as concrete examples of its use and the stable expressions in which the word occurs are extracted from the bottom of the dictionary record, but also demonstrate the laws of language that obey the rules of word formation.

THE MAIN FINDINGS AND RESULTS

Language is a reflection of real life. And life still doesn't stop: new branches of manufacturing, science, business and culture are emerging. In ordinary colloquial speech, new words, terms, and stable phrases come. Was it possible to imagine such words as "freelancer", "paynet" in the speech of our compatriots ten years ago? A dictionary is the best way for a writer to provide information about synonyms, phrases, and usages in their native language. It is not enough to create an electronic dictionary; in fact, modern electronic dictionaries created in accordance with the language corpus are an achievement of today's Uzbek lexicography.

Linguistic dictionaries in Russian are now very common electronic dictionaries, so we will focus only on bilingual Uzbek-English and Uzbek-Russian dictionaries. It is known that a host of grammatical terms belong to Russian and English. There are some terms of Latin origin, but it should be noted that Uzbek linguistic terms are formed mainly on the basis of Russian terminology, through translation. To study this issue, it is necessary to conduct a comparative study of Uzbek linguistic terms with terms of other languages. It is interesting to compare these dictionaries because the communities that create them have different views on the principles of electronic lexicography. Electronic dictionaries are also becoming increasingly important when it comes to the national language corpus.

In this regard, some research in Uzbek linguistics, including practical work, is now underway. It is known that the language is reflected in dictionaries, and today in Uzbek lexicography, in the field of computer linguistics, there are a number of problems. For the creation of an electronic platform of the Uzbek language, the development of the language corpus, the educational corpus, sectoral terminology, linguistic dictionaries, and educational dictionaries should be created. As a world experience in this regard, scientists such as K.D.Bak, J.Malkil, P.N.Denisov, V.G.Gak, L.A.Novikov, V.V.Morkovkin, S.G.Barkhudarov [1, pp. 54-58], should be used effectively.

Today, there is a need for a new approach to the creation of linguistic dictionaries, both to improve the content of education and to create educational and language corpus [10, p. 247]. In particular, it is advisable to create electronic dictionaries by categorizing linguistic dictionaries according to their level of importance. For example, the use of noun and verb phrases in speech is more active than other categories. The educational process is also in greater need of e-learning materials than printed information. In this case, first of all, it is necessary to create separate dictionaries on word groups, which will also speed up the search process and save time.

In addition, for researchers in the field of philology, linguistics, including lexicology, categorized electronic dictionaries increase the efficiency of work, creating the conditions for an immediate understanding of the general appearance.

In particular, the dictionary "Famous Nouns" can be developed in different forms.

1. "Dictionary of famous nouns"

2. "Dictionary of famous nouns"
3. "Dictionary of place names".
4. "Dictionary of active industry terms"
5. "Dictionary of names of organizations".

The difference between these dictionaries and existing general and traditional dictionaries is that the words included in these classified dictionaries are composed primarily of the most active words according to their use, and each word is given a spelling and pronunciation form.

In addition, noun and verb phrases are mostly used to refer to formal activities according to the needs of the society. In order to avoid duplication of documents, texts of different styles, the preparation of dictionaries "Synonymous Nouns", "Synonymous verbs" facilitates the use of language, office work.

The following approach can be used to ensure the widespread use of words related to the Uzbek language in the communication process:

1. "Dictionary of famous Uzbek nouns"
2. "Dictionary of Uzbek names"
3. "Dictionary of Uzbek verbs"
4. "Dictionary of Uzbek place names".

Such dictionaries are, of course, created in electronic form. Each word in this dictionary also serves to study spelling and pronunciation norms.

Such dictionaries, first of all, in the system of continuing education, mainly in philological, linguistic research, as well as in the process of paperwork, document preparation, closely assist students, researchers, professionals and professionals. These types of dictionaries can serve as convenient electronic content that can serve both the development of computer linguistics and corpus linguistics. The exact essence or value of anything-event becomes clear when it is compared to another. When linguistic units and even grammatical terms are compared, their properties become clear. In this regard, the grammatical terms in the following works are compared comparatively. In the works of professors AyubGulyamov, Hamid Nematov and Askar Gulyamov, it is said that Uzbek linguistics was formed on the basis of Russian linguistics. In order to verify the accuracy of these words, Professor S.G. Barkhudarov and Associate Professor E.I. Dosycheva published in 1938 in Moscow "Grammar of the Russian language. Part One Phonetics and morphology" and "Grammar of the Uzbek language by OlimUsmon and BarotAvizov. Part One Phonetics and Morphology" textbook;

Professor LB Shcherba, Professor DN Umankov, Professor RI Abanesov, EI Korenevsky and FF Kuzmin, editors of Russian grammar, and A. Gulom and P. Shamsiev, editors of Uzbek grammar; those who did. In this paper, we will compare the prefaces, introductions, and chapters in these textbooks, entitled "Understanding Speech". Photos of M.B. Lomonosov, A.H. Vastokov, F.I. Buslaev, A. Potebnya, A.A. Shakhmatov, N.Ya. Marr in the "Introduction" of I. S. Barkhudarov, brief information about them given. There is no such information in O.Usman's "Foreword" and it is clear. It describes grammar, phonetics, morphology, and syntax. They also have situations that make the reader think. Therefore, we cite both prefaces in Russian and Uzbek [1]. In Russian: «Грамматика – словореческое (грамматике)

ипервоначалообозначалопросто «умениечитатьиписать». Однако в древнейших времен это слово стало обозначать особую науку, которая изучает законы того или другого языка. Уже этого одного факта видно, что без грамматики, т.е. без науки о языке нельзя было с успехом, заниматьсялитературным языком. In Uzbek: Grammar is actually a Greek word, originally used to mean “reading and writing”. However, the word was seen as a special science that examined the laws of other languages. Just as it is important to know the laws of mechanics in copywriting, so it is important to know the laws of language in the study of literary language, especially written language;

II. S. Barkhudarov's textbook “Introduction” includes the following topics. (We give the translation) §1. The concept of speech. §2. Questioning, interrogation and exhortations. §3. The main parts of speech. §4. Secondary parts of speech. §5. Identifier, complement and case. §6. Simple and compound sentence. We will now try to shed light on the topics claimed above and, first of all, compare the theoretical information in the textbooks.

S. Barkhudov	O.Usmon	In English
§1.Понятие о предложении	§1. Gap haqidatushuncha	The concept of speech
§2. Вопросительное, восклицательное и повествовательное предложения	§2. So‘roq, darakvaundovgaplar	Questions, remarks and exhortations
§3. Главные члены предложения	§3. Gapning bosh bo‘lagi	The main part of the sentence
§4. Второспенные члены предложения	§4. Gapning ikkinchidarajalibo‘laklari	Secondary parts of speech
§5. Определение, дополнение, обстоятельство	§5. Aniqlovchi, to‘ldiruvchivahol.	Identifier, complement and case.
§6. Простое и сложное предложения	§6. Soddavaqo‘shma gap.	Simple and compound sentences.

It is known that the grammar of the Uzbek language is formed on the basis of the grammar of the Russian language. Therefore, most of the terms in it are translated, some are exactly taken. The peculiarities of the sound structure of the Uzbek language are not fully reflected. To prove our point, we will try to compare the phonetic materials given in the grammars of the Russian and Uzbek languages, published in Moscow in 1938 and in Tashkent in 1939.

We first compare the phonetic topics in both textbooks:

№	In Russian	In Uzbek	In English
1.	Звуки речи	Nutq tovushlari	Speech sounds
2.	Звук и буква	Tovush va harf	Sound and letter
3.	Алфавит	Alfavit	Alphabet
4.	Гласные звуки	Unlitovushlar	Vowel sounds
5.	Согласные звуки	Undoshtovuchlar	Constant sounds
6.	Звонкие и глухие согласные	Jaranglivajarangiztovushlar	Sounds loud and low
7.	Твердые и мягкие согласные	-	-
8.	Правописание гласных после шипящих	Ba'zi unlitovushlarning imlosi	Spelling of some vowels
9.	Разделительные	Bo'g' intuzilishi	Joint structure
10.	Ударение	Urg'u	Stress
11.	Апостроф и гласные	-	-

Apparently, the phonetic material was not given because there were no hard and soft consonants in the Uzbek language. Evidence has also been omitted for the writing of vowels after the whistling consonant and the s sound. However, in the “Grammar of the Uzbek language”, “Spelling of some vowels” is given more widely. These analyzes were based on the research of Professor I. Mirzaev.

We now turn our attention to the comparison of Uzbek and English grammatical terms. In fact, since Uzbek and English do not belong to the same family, there are some differences from grammatical terms, but the basic terms are almost the same.

For example, the following grammatical terms are appropriate:

<i>kinds of sentences</i>	—	<i>gap turlari</i>	(for the purpose of expression)
<i>declarative sentence</i>	—	<i>darak gap</i>	
<i>interrogative</i>	<i>sentences</i> —		<i>so'roq gap</i>
<i>imperative</i>	<i>sentences</i> —		<i>buyrug' gap</i>
<i>exclamatory</i>	<i>sentences</i> —		<i>undov gap</i>
<i>affirmative</i>	<i>sentences</i> —		<i>tasdiq gap</i>
<i>negative</i>	<i>sentences</i> —	<i>inkor</i>	(negative) <i>pag</i>
<i>word</i>	<i>order</i> —	<i>so'z tartibi</i>	(in sentence)
<i>the</i>		<i>subject</i> —	<i>ega</i>
<i>the</i>		<i>predicate</i> —	<i>kesim</i>
<i>direct</i>	<i>word</i>	<i>order</i> —	<i>to'g'riso'z tartibi</i>
<i>the principal parts of the sentence</i>	—	<i>gapning bosh bo'laklari</i>	
<i>proper</i>		<i>noun</i> —	<i>shaxsoti</i>
<i>common</i>	<i>noun</i> —	<i>o'rin</i>	<i>joy</i>
<i>countable</i>		<i>noun</i> —	<i>oti aniqot</i>

<i>uncountable</i>	<i>noun</i> —	<i>noaniqot</i>
<i>abstract</i>	<i>noun</i> —	<i>movxumot</i>
<i>material</i>	<i>noun</i> —	<i>narsaoti</i>
<i>collective</i>	<i>noun</i> —	<i>jamlovchiot</i>
<i>pronoun</i> —		<i>olmosh</i>
<i>numeral</i> — <i>son</i>		
<i>adjective</i> — <i>sifat</i>		

Now that languages have morphologically specific differences, some of the differences are also obvious:

<i>gerund</i> —	<i>harakat</i>	<i>nomi</i>
<i>simple verbal predicate</i> —	<i>soddafe'lkesim</i>	
<i>compound</i>	<i>verbal predicate</i> —	<i>qo'shma fe'l kesim</i>
<i>finite</i>	<i>verb</i> —	<i>sof fe'l</i>
<i>phraseological</i>	<i>unit</i> —	<i>fraziologikbirikma</i>
<i>nominal</i>	<i>predicate</i> —	<i>ot-kesim</i>
<i>verbal</i>	<i>predicate</i> —	<i>fe'lkesim</i>
<i>auxiliary verb</i> —	<i>yordamchife'l</i>	

Grammatical terms denoting the following types of questions are not available in Uzbek:

<i>general</i>	<i>question</i> —	<i>umumiyso'roq</i>
<i>special question</i> —	<i>maxsusso'roq</i>	
<i>alternative</i>	<i>question</i> —	<i>alternativso'roq</i>
<i>disjunctive</i>	<i>question</i> —	<i>ajralganso'roq</i>
<i>auxiliary</i>	<i>verb</i> —	<i>yordamchife'l</i>
<i>indirect = inverted word order</i> —	<i>o'zgarganfe'ltartibi (inversion)</i>	

Because languages have their own morphological structure, no linguistic unit is unique to a particular language. Linguistic terms also do not differ significantly in this respect. It is known that the Russian language had a great influence on the formation of terms in Uzbek linguistics, in particular, grammar. Of course, the grammatical terms used in English are mostly Latin or Greek.

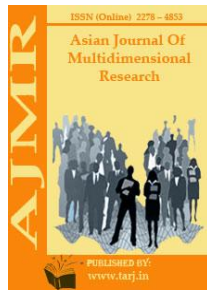
CONCLUSION

In conclusion, even a mobile electronic dictionary may not reflect all the instantaneous movements of a language, but it may provide a key to understanding and comprehending these changes. This is also very important when a clear semantic translation is required, as it is not the task of choosing the appropriate expression, but the use of a suitable alternative to a word that represents a culture in a broad sense to another language.

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2. In order to simplify the statement of opinion, instead of "Russian grammar" S. Barkhudarov, instead of "Uzbek grammar" we use the surnames O.Usmon.
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LINGUISTIC ANALYSIS OF NEWSPAPER TEXT

Orazimbetova Z.K*

*DSc,

Karakalpak State University named after Berdakh,
UZBEKISTAN

ABSTRACT

This article describes the materials of the analytical genre of the newspaper, including the specific features of the genre of the article, its purpose, lexical and stylistic features. The main article, materials of various content and character, chronicles, resolutions and telegrams and other information are published in the press. However, they are fundamentally different from each other in their stylistic, grammatical and features of the coverage of events. This feature enriches the structure and content of the language of print media, creates the basis for its diversity.

KEYWORDS: *Journalism, Style, Language, Type Of Text, Genre, Words, Analytics, Newspaper.*

INTRODUCTION

The state of development of the literary language today is widely reflected in the print media. The preservation of the norms of the literary language, including spelling, lexical, grammatical and stylistic, is observed in the current newspaper language. At the same time, the language of the press has distinctive features peculiar only to it:

1. The language of the print media is one of the types of journalistic style of written literary language. However, in its external form it differs from other functional styles of the literary language.
2. The printed language is a freely functioning, energetically changing linguistic phenomenon associated with the changes taking place in society.
3. The language of the printed media, in addition to a number of related features in relation to the written literary language, also has some neutral properties. This can be seen in the variety of styles and forms of description in the materials published in the newspaper.
4. The language of print media has its own grammatical and stylistic expressiveness.

5. In both printed and written literary language, and in oral colloquial speech, there are characteristic features of the style of official documents, artistic literary and scientific styles.
6. The main article, materials of various content and character, chronicles, resolutions and telegrams and other information are published in the press. However, they are fundamentally different from each other in their stylistic, grammatical and features of the coverage of events. This feature enriches the structure and content of the language of print media, creates the basis for its diversity.
7. The main distinguishing feature of the language of the print media is the use of standard phrases and stamps in it.
8. If fictional material is given on the pages of print media, then its emotionality, expressiveness and imagery begin to increase; in this case it is considered a distinctive feature of the language of print media [1].

Therefore, first of all, the study and scientific research of the language of the printed media is of great importance for linguistics. In our state, the press is seen as a means of influencing the consciousness of the population, a powerful tool for educating the people in the spirit of the idea of national independence, as an organization uniting representatives of all nations and nationalities. And therefore, the language of the print media should be simple and understandable for all segments of the population and, as far as possible, avoid high-flown words.

Of course, language is the national value of a people, which determines its unique features and spiritual world, it is not only a means of communication between people, but, at the same time, is considered an important tool for educating a person's personality. Every son of his people should make the unique possibilities of the language come true, take part in the development, enrichment and improvement of it and be responsible for his future and not remain indifferent in this matter. The Karakalpak language, while remaining the national literary language of our people, is at the same time the main means of forming high spirituality and culture, a messenger of pride in our achievements. This means that we must value and support him. If our task is to increase the authority of the literary language, then we must strictly follow its rules and norms.

In ensuring the place of the Karakalpak literary language as the state language, using it at a high cultural level in the print media, in the socio-political, spiritual, cultural and economic life of our republic, there is a close relationship between the development of the literary language with an increase in the standard of living of the people and the culture of communication between people with each other. Friend;

Literary language is a delicate, sensitive instrument and, at the same time, it is a powerful instrument for influencing the minds and consciousness of people. Therefore, its rich features must be used in the right place. The answer to this question was the works of poets and writers, the speeches of scientists, teachers and journalists on radio, television, on the pages of newspapers and magazines. In their numerous speeches, disputes, meetings with labor collectives, students and students, they expressed their point of view on how to use the artistic word, grammatical forms of the language, new words and terms more correctly. Particular attention was paid to the language of the print media, because the language of the press is the beacon of the nation, the window of spirituality and enlightenment, the most important means of educating the younger generation. The implementation of the goals and objectives of promoting the possibilities of the language, designating its place and role in the future, strict observance of

the laws and rules of the literary language, raising to a higher level of literacy, culture of speech and writing, great importance is attached to the media.

The Karakalpak literary language, strictly adhering to its laws and rules in writing and speaking, the Sami observe the norms of the literary language. Thus, we show deep respect for the native language, the language of the Karakalpak people. Mass media workers and journalists have a great responsibility in adhering to the norms of the literary language, because the language of the press is a mirror of the culture of the Karakalpak language. In the development of the rules of the literary language and strict adherence to them in practice, a special place is given to educational institutions, print media, radio and television. As we noted above, the print media have a great influence on the assimilation of the norms of the literary language, the observance of its rules in writing and speaking. Thus, the language of the press plays the role of a model in mastering the rules of the literary language. Therefore, the language of the press for all members of society is an example in improving their writing and speaking.

The development of life in society is impossible without contradictions and transformations in one area or another. Along with the above-mentioned achievements in the modern print language, there are some drawbacks that create problems when using the literary language in print media. First of all, these are spelling, punctuation and grammatical errors, as well as stylistic flaws. Especially many such shortcomings are found in regional, departmental, and also in some republican newspapers. All these shortcomings cause a lag in the development of the culture of writing and speaking. Let's dwell on some of them:

1. Disadvantages encountered when replacing Russian and other borrowed words with Turkish, Karakalpak, and Persian-Arabic languages. As a result, words and terms previously unknown to the population entered our language, the language of the press. For example, instead of "autonomous republic" - "mukhtar zhungiriyat", "plane" - "otarba". However, in most cases, explanations were given about the fallacy of replacing one word with another. As a result, many of these words and terms never caught on in our language. However, in their work, journalists still use new words and terms from other languages. In some cases, they are used as variants of other words: *programmist* – *dasturlewshi*, *sekretar* – *xatker*, *programma* – *dastur*, *bagdarlama*, *proekt* – *joybar* etc.
2. When using words in writing, there are both cases of repetition and cases of excesses. Such errors affect the content of the text and its perception. For example: *oqiw, úyreniw, isenim, sarplangankúsh, eldiñxalqitñaruushinuntılıwlar, sarplanganmiynetkem-kemnenkózgekórinebasladı.*
3. Sometimes the use of incomprehensible words in a newspaper requires clarification. The use of such words in the newspaper is undesirable: *baqlawshilarteraktabetlerintúrlishe bayan etpekte. Feromontutqishqoyipshigúlip, trixogrammajiberildi.*
4. Incorrect or excessive use of synonyms: *tiykarǵınızamımızǵatayanıphámsúyenipjumisalıpbarmaqtamız.*
5. Stylistic mistakes in the sentence. For example, an unnecessarily stretched text and because of this, the semantic connection between sentences is lost: *Bizlerapamızkórsetkengilem-quraqkórpeshe, diywaldaǵıilderilgengilem-apamızdıñ 78ge shıqqandaǵıqolóneriushinkerekbolardegendámedenaǵıslardıñatınsorapjazıpalıwǵatırıstıq.*
6. The language of printing requires precision and specificity, each item must be named by its own name. In some cases, such mistakes are made in newspaper materials: *Ózbekstanqosıqlarbayramtañlawınıñrespublikalıqbasqıshındabuljámáát 2-orındı iyeledi.*

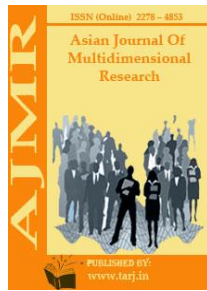
7. As a result of technical errors, the texts go out of print without a semantic link: *Ómiriñizdiqalayınshaalıpbarıw, shólkemlestiriw, oy-pikiriñizdibasqarıwsiziñ ... ñızda!* In this example, the syllable is not printed - *qol* - (*qoluñızda*).

One should not remain indifferent to the errors listed above. Of course, if we treat these shortcomings with indifference, this will negatively affect the young generation of journalists, their growth as professionals, the general education of society and the development of the language of the print media. Among the above errors, the most common are the incorrect use of words, the composition of the text, the stylistic error of sentences. Unfortunately, for some newspapers, these phenomena are becoming commonplace, since every day there are more and more of them. Sometimes there are more than ten different types of errors in just one issue of the newspaper. This poses a big problem for the development of the language of print media.

The language of the print media is an integral part of one of the main heritage of our people - the Karakalpak language, its mirror, an example of literacy and culture of speech. The aforementioned shortcomings are found more in some newspapers, in others less. Only a truly creative approach of a journalist to his duties, a sincere desire to fulfill the high mission of the profession can serve the development of the language of the print media. In our opinion, a great responsibility assigned to journalists is to create conditions under which the language of periodicals would always remain a model of correct writing and colloquial speech.

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DEFORMATION OF REINFORCEMENT AND CONCRETE OF BENDED CONCRETE STRUCTURES WITH FIBERGLASS REINFORCEMENT

Yuldashali Mamazonovich Makhkamov* ;
Sahiba Mirzaakbarovna Mirzababayeva**

* Associate Professor,
Candidate of Technical Sciences,
Department of Construction of Buildings and Structures,
Faculty of Construction, Fergana Polytechnic Institute, Fergana city,
Republic of UZBEKISTAN

** Senior Teacher,
Department of Construction of Buildings and Structures,
Faculty of Construction, Fergana Polytechnic Institute,
Fergana city, UZBEKISTAN

Email id: s.mirzaboboeva@ferpi.uz

ABSTRACT

This article presents experimental data on the development of deformations in longitudinal reinforcement and concrete in the compressed zone of the section of bent concrete beams made of ordinary heavy concrete, equipped with fiberglass composite reinforcement under the action of transverse forces.

KEYWORDS: *Fiberglass Composite Reinforcement, Heavy Concrete, Longitudinal Reinforcement, Clamp, Shear Force, Bending Moment, Normal, Oblique Crack, Deflection.*

INTRODUCTION

At the Fergana Polytechnic Institute, complex experimental and theoretical studies of the stress-strain state, the formation and development of normal and oblique cracks, deformations of reinforcement and concrete, strength and forms of destruction of an element during transverse bending of concrete beams with fiberglass reinforcement have been carried out. For this, the accumulated experimental material of both the authors and other researchers was analyzed [1-16].

Materials, Designs and Prototyping:

To carry out experimental studies, prototype beams were made with a rectangular cross-section with dimensions of 16x30 cm and a length of 240 cm. For the beams, ordinary heavy concrete of class B20-B30 was used. For concrete, Portland cement with an activity of 42.5 MPa of the Turon cement plant in the Besharyk district of the Fergana region was used as a binder. The beams were made in wooden formwork. The inner surfaces of the formwork were covered with tin.

As longitudinal working reinforcement in the tensioned zone, 2Ø12 or 2Ø16SHKA were installed, in the compressed zone 2Ø10SHKA, as clamps Ø 4 or Ø8SHKA reinforcement was used with a pitch of 15 (10) cm.

The reinforcement of the clamps was connected to the longitudinal reinforcement by knitting with the help of soft wire. Reinforcement cages were installed in the formwork in the design position and fixed. After installing all the necessary devices for measuring the deformations of reinforcement and concrete, the samples-beams were concreted by vibrating the concrete with deep vibrators. In the concreted state, the beams were kept for 5-6 days, then they were laid out and the samples were kept under laboratory conditions.

Experimental Research Technique: Beam samples of four series were made and tested on a power stand. The test bench was specially made so that, when loaded with two concentrated forces, it was possible to investigate both the zone of pure bending in the middle part of the beam and shear zones at the support parts of the beams. Before testing, the beam was installed on two hinged supports. One of the hinges was made hinged-movable, and the other was hinged-fixed. The distance between the concentrated forces was 700 and 1300 mm, and the distance from the supports to the weights was 700 and 400 mm. In this case, the distance from the supports to the edges of the beams was equal to 150 mm. The loading was carried out by a hydraulic jack with a capacity of 40 tons. For this, a distribution traverse was used.

Before the start of the tests, readings were taken from all measuring devices installed on the sample-beam. These readings of the instruments were taken as "conditional zero". Sample beams were loaded smoothly in several stages. The step load was approximately 10% of the design breaking load. In total, 8-12 loading stages were performed. After each loading with a step load, readings were taken from all devices, after which they were kept at this load for 15-20 minutes. Until the instrument readings stabilize. After that, the readings of the instrument readings were again made. This process was repeated at each loading stage.

During the entire test period from the beginning of loading to the end of the entire test, the deformations of compressed and stretched longitudinal reinforcement, concrete of compressed section, the moment of formation of normal and inclined cracks, the width of crack opening, and deflections of characteristic points of beams along the length were measured. The fixation of the stage and full load was recorded according to the readings of the hydraulic jack pressure gauge. All tested beams were brought to failure.

Deformations of concrete and reinforcement were measured using dial indicators with an accuracy of 0.01 mm on a base of 100 and 300 mm. For this, portable messura were used, equipped with dial-type indicators. The deflections of the beams were measured with dial indicators with an accuracy of 0.01 mm and deflectors with an accuracy of 0.001 mm.

RESEARCH RESULTS

Experiments have shown that the deformations of longitudinal reinforcement under load along the length of the beams are distributed unevenly (Fig. 1, 2).

In tensioned longitudinal reinforcement, before cracking, deformations grow in proportion to the increase in load. At the same time, the deformations in the pure bending zone were somewhat greater than the analogous deformations of the reinforcement in the shear zone, i.e. in the zone of action of transverse forces and bending moments.

Deformations of the stretched longitudinal reinforcement began to grow faster after the formation of the first normal cracks. This was clearly noticeable especially in those sections of the beams where normal cracks crossed the longitudinal reinforcement. Before the formation of normal cracks, the deformations of the longitudinal reinforcement were 2-3 times greater than the deformations in the shear zone.

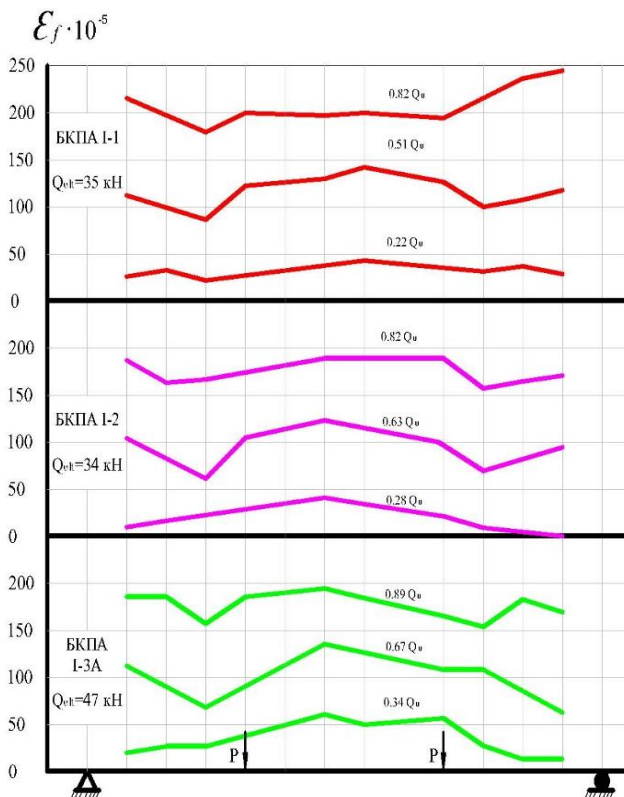


Fig. 1. Distribution of the average relative deformations of longitudinal tensile reinforcement of samples of beams of series I along the length with the coefficient of reinforcement
 $\mu_f = 0,64\%$

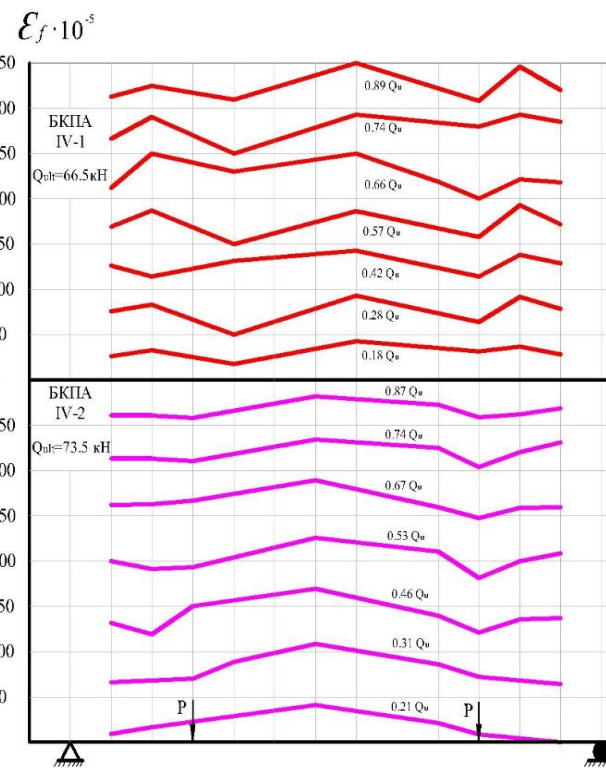


Fig. 2. Distribution of average relative deformations of longitudinal tensile reinforcement of samples of IV series beams along the length with the reinforcement coefficient
 $\mu_f = 0,94\%$

For example, in beams of series I in the zone of pure bending before the formation of normal cracks, the deformations of longitudinal working reinforcement were $\varepsilon_f = (44 - 46) \cdot 10^{-5}$, whereas in the same reinforcement strains in the shear zone were equal $\varepsilon_f = (15 - 25) \cdot 10^{-5}$. And in beams of the IV series in the zone of pure bending before the formation of normal cracks, the deformations of the longitudinal working reinforcement were $\varepsilon_f = (42 - 44) \cdot$

10^{-5} , whereas in the same reinforcement strains in the shear zone were equal $\varepsilon_f = (12 - 25) \cdot 10^{-5}$ (Figure 3-5). This corresponded to the magnitude of the load $Q = (0,18-0,21)Q_{ult}$.

In the samples of beams, after the formation of cracks normal to the longitudinal axis of the beam, the deformations of the longitudinal working reinforcement reached the following values: in the zone of pure bending $(150-220) \cdot 10^{-5}$, and in the shear zones - $(50-100) \cdot 10^{-5}$.

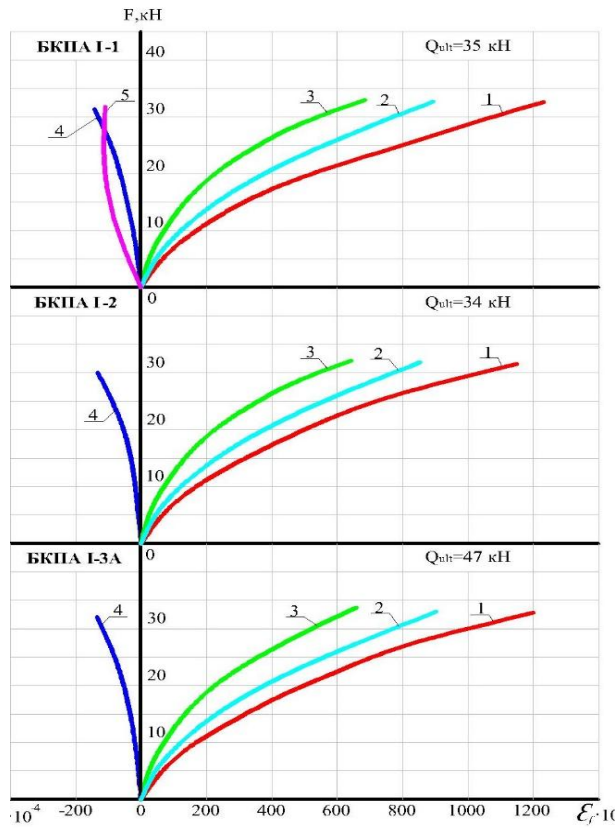


Fig. 3. Average relative deformations of beams of the I-series: 1 - in the zone of severe bending of longitudinal tensile reinforcement; 2,3 - in the shear zone of the longitudinal tensile reinforcement; 4 - in the zone of pure bend of compressed working reinforcement; 5-in the shear zone of longitudinal compressed reinforcement

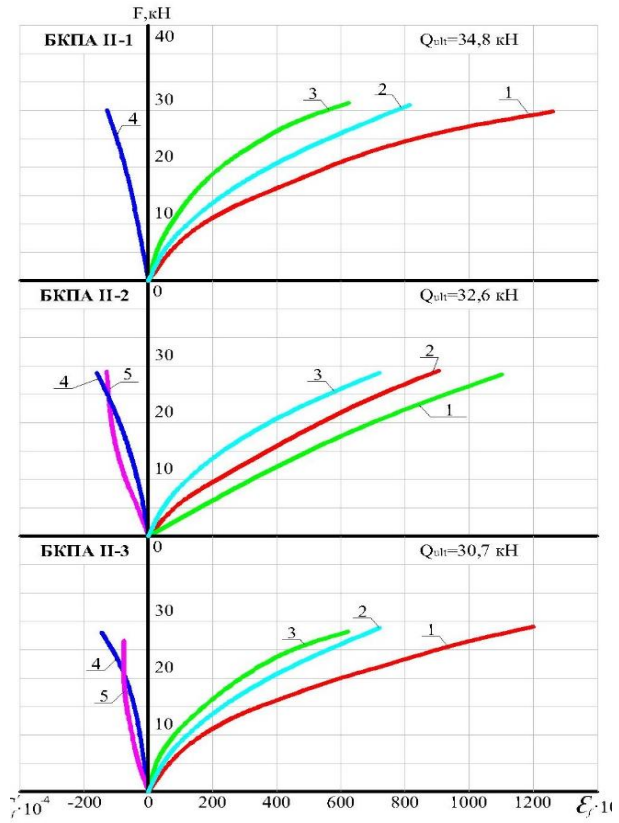


Fig. 4. Average relative deformations of the beams of the II-series: 1 - in the zone of severe bending of longitudinal tensile reinforcement; 2,3 - in the shear zone of the longitudinal tensile reinforcement; 4 - in the zone of pure bend of compressed working reinforcement; 5-in the shear zone of longitudinal compressed reinforcement

Later, after the formation of cracks inclined to the longitudinal axis in the shear zones, the deformations of the longitudinal working reinforcement also increased and reached values up to $(150-250) \cdot 10^{-5}$.

A further increase in the load led to some “leveling” of the deformations of the longitudinal working reinforcement along the length of the beams. At the same time, as the load increased, the absolute value of the deformation of the longitudinal working reinforcement of the beam specimens also increased. With a range of staged loads within $(0.8-0.9) Q_{ult}$, the development of deformations of longitudinal working reinforcement was observed to values $(300-400) \cdot 10^{-5}$.

According to the results of measurements, it was found that before the formation of cracks, the stresses in the longitudinal working reinforcement are (80-120) MPa.

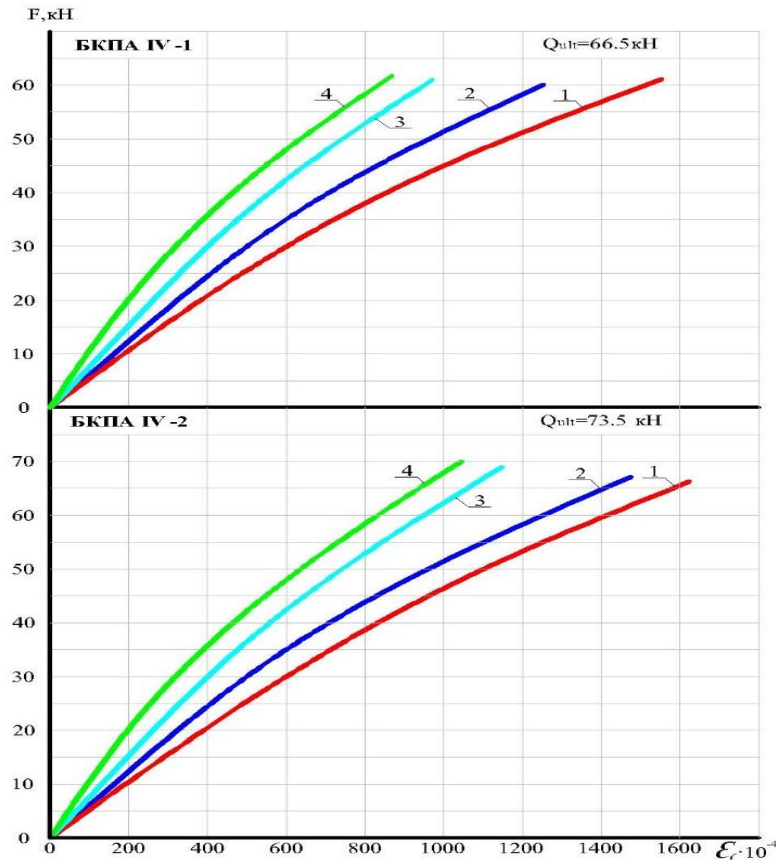


Fig. 5. Average relative deformations of IV-series beams: 1 - in the zone of pure bending of the lower longitudinal tensile reinforcement; 2 - in the zone of pure bending of the upper longitudinal tensile reinforcement; 3-in the shear zone of the lower longitudinal reinforcement; 4-in the shear zone of the upper tensile reinforcement

The average relative deformations of tensile longitudinal reinforcement in the zone of pure bending increase intensively along a flat line as the load increases; this is especially clearly seen at high load levels (see Figure 3-5).

When the load reaches the levels close to the destructive one, an increase in the values of reinforcement deformations up to $(1000-1200) \cdot 10^{-4}$ is observed, which means the development of tensile stresses in the longitudinal reinforcement equal to 520-650 MPa..[10-20]

The deformations of the stretched longitudinal rods in the shear zones were, on average, 1.2-1.5 time's less than similar deformations in the pure bending zone. In these reinforcing bars, only at the highest loading levels close to the limiting states, an intensive development of deformations was observed and their values approach the values of deformations in the pure bending zone.

In compressed longitudinal reinforcement, when the load value reached $(0,4-0,6)Q_{ult}$, the deformations developed almost linearly and their values were small. With a further increase in the load, the graph of deformations began to acquire a curvilinear character of development and some increase in their values was observed. At loads close to destructive in the reinforcing bars located in the compressed zone of the section, the achievement of deformations of the values

$\varepsilon'_f = (100 \div 150) \cdot 10^{-4}$ was observed (see Fig. 3-5). This means that in compressed rods, the compressive stresses can reach or exceed the values of $\sigma'_f = 100$ MPa.

In the manufacture of specimen-beams in the zone of their pure bending, pins with cores at the end sections were installed at three levels from the most compressible face to measure the compressive deformations of concrete based on 300 mm using a portable messura equipped with dial indicators with a graduation value of 0.01 mm. In the course of testing the beams, it was possible to measure the compressive deformations of the concrete of the beams against these installed pins.

In the course of testing, it was found that at a staged load of less than 20 kN, the longitudinal compressive deformations of concrete have insignificant values, have an elastic nature of development and change linearly with respect to the loads.

When the load value of 20 kN in the beam specimens of series I was reached, the values of concrete compressive deformations at levels 60, 90, 120 mm below the most compressive edge of the section were equal to $70 \cdot 10^{-5}$, $50 \cdot 10^{-5}$, $35 \cdot 10^{-5}$, respectively. [1-19]

And in the samples - beams of the IV series, similar deformations of concrete compression at levels 30, 60, 90 mm below from the most compressible face of the section were equal to $45 \cdot 10^{-5}$, $25 \cdot 10^{-5}$, $20 \cdot 10^{-5}$, respectively (Fig. 6, 7).

A further increase in the load at subsequent stages of loadings led to an intensive increase in the compressive deformations of concrete in the compressed zone of the section of the beams. When the load reaches a value close to the destructive one, i.e. at $Q = (0.85-0.95)Q_{ult}$ the greatest values of compression deformations reached $(140-160) \cdot 10^{-5}$. Before the destruction of the beams, it was determined that the maximum values of the compressive deformations of concrete are $(150-175) \cdot 10^{-5}$, which means that the compressive stresses in concrete reach limiting values and are equal to the design resistance of concrete to compression. At the same time, it was revealed that after reaching the magnitude of the stage load of the level of 35-40% of the destructive one, inelastic deformations begin to accumulate in the concrete of the compressed zone.

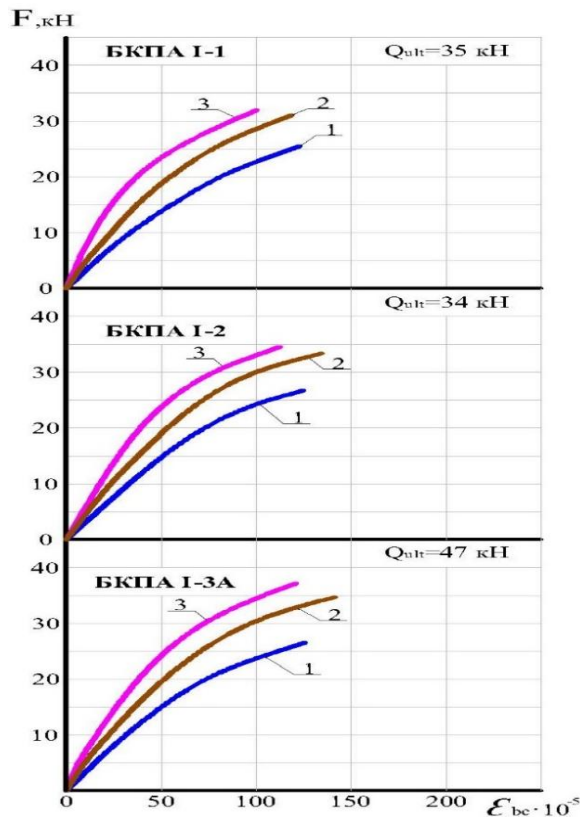


Fig. 6. Average relative compressive strains in the pure bending zone of the I-series beams: 1 - at the level of 60 mm from the most compressed edge; 2- at the level of 90 mm from the most compressed edge; 3- at the level of 120 mm from the most compressed edge of the section

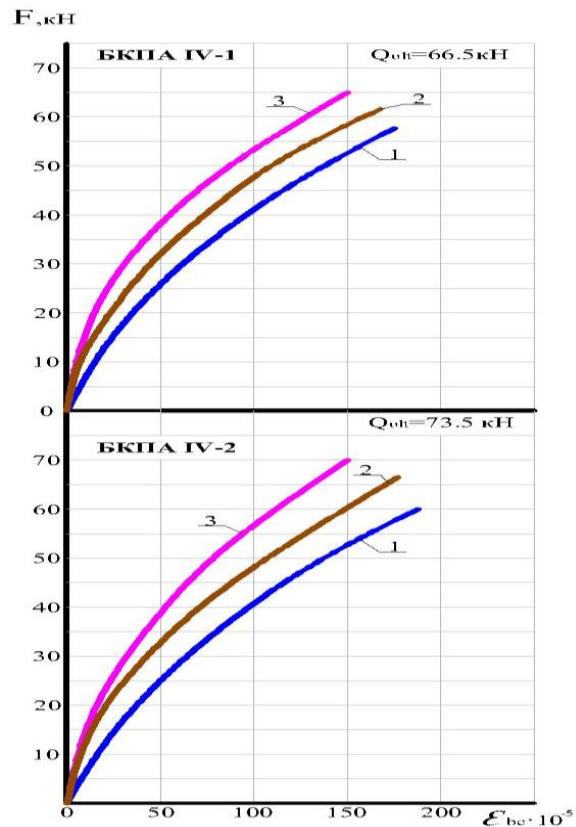


Fig. 7. Average relative compression deformations in the zone of pure bending of IV-series beams: 1 - at the level of 30 mm from the most compressed edge; 2- at the level of 60 mm from the most compressed edge; 3- at the level of 90 mm from the most compressed edge of the section

CONCLUSION

1. Based on the results of the experimental and theoretical studies, it was found that under the action of the load, the nature of the stress-strain state, the formation and development of normal and oblique cracks, the development of deformations in the longitudinal and transverse reinforcement and the compressed zone of concrete, deflections, the onset of the limiting state, shape and the nature of destruction in bent concrete structures with fiberglass reinforcement is the same with similar structures with steel reinforcement.

2. In longitudinal tensile reinforcement, the maximum tensile deformations indicate that stresses develop in the reinforcement that reach the values of the design tensile resistance of fiberglass reinforcement. In compressed longitudinal rods, at the onset of the limiting state, compressive stresses equal to or exceeding 100 MPa arise. In the concrete of the compressed zone, deformations develop that are numerically equal and corresponding to the stresses of the design resistance of concrete in compression.

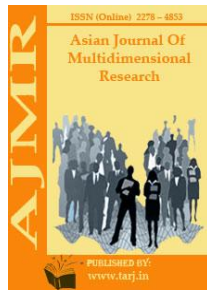
3. The experimentally established values of the deformations of concrete and fiberglass reinforcement of concrete beams under load give valuable material that enriches the theoretical

prerequisites for the calculation and design of concrete structures reinforced with composite reinforcement and can be used in practical calculations of such structures.

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EXPERIMENTAL AND THEORETICAL STUDIES OF THE OPERATION OF INCLINED SECTIONS OF BENDED BEAMS UNDER ONE-SIDED HEATING

Yuldashali Mamazhonovich Makhkamov*

* Associate Professor,
Candidate of Technical Sciences,
Department of Construction of Buildings and Structures, Faculty of Construction,
Fergana Polytechnic Institute,
Fergana City, Republic of UZBEKISTAN
Email id: y.maxkamov@ferpi.uz

ABSTRACT

This article presents the results of experimental and theoretical studies of the operation of inclined sections of bending elements operating under the influence of one-sided heating. A method is proposed for calculating such structures for transverse forces, taking into account the actual stress-strain state of the element.

KEYWORDS: *Bending Reinforced Concrete Element, Shear Force, Bending Moment, Strength, Crack Resistance, Stress, Normal, Heat-Resistant Concrete, Reinforcement, One-Sided Heating, Temperature.*

INTRODUCTION

When designing bending reinforced concrete structures of thermal units, special attention is paid to their calculation for the effect of transverse forces, since these structures often have short lengths and large transverse forces arise during operation. The calculation of bending reinforced concrete elements operating under conditions of high and high technological temperatures on the shear force is being improved as experimental and theoretical research is accumulating. For this purpose, special experiments were carried out on bending reinforced concrete elements made of ordinary and heat-resistant concrete under the action of transverse forces under conditions of exposure to one-sided heating. The experiments were carried out on reinforced concrete beams of rectangular cross-sections 16x30cm and length 240cm. Beams were made from ordinary heavy concrete of class B 35 on Portland cement with granite crushed stone and quartz sand and from heat-resistant concrete on alumina cement with fireclay aggregates of class B35. The concrete of all beams was naturally hardened. The beams were reinforced with two longitudinal

rods Ø18 or 20 mm made of steel of class A-Sh, grade 35GS, the yield point of which ranged from 415 to 490 MPa, the ultimate strength from 610 to 760 MPa. Some of the beams did not have transverse reinforcement, others were reinforced with vertical welded clamps made of reinforcing wire Ø 6 mm of class A-1, grade St3sp3 with a pitch of 8-10 cm. / 3h (20 cm) on one half of the beam length. To determine the strength and deformation properties of concrete at normal temperature and when heated, cubes 10x10x10 cm and prisms 10x10x10 cm were concreted simultaneously with the beams.

RESEARCH METHODOLOGY

Experimental beams were tested on a special setup consisting of an electric heating furnace and a loading system. A beam with a span of 137 (58) cm and two consoles of 51.5 (91) cm each was installed on the supports provided in the furnace, reinforced with a zone upward. The beams intended for testing under heating were first heated from the side of the compressed zone of concrete at a rate of 1000 ° C per hour to a predetermined temperature, kept at this temperature for 2 hours, then loaded with two concentrated forces symmetrically applied to the cantilever sections.

The load was given by a hydraulic jack in steps equal to 0.05-0.1 of the breaking one. During loading, the temperature in the furnace was kept constant. The beams were tested at normal temperature and one-sided heating with shear spans (distance from the support to the load) equal to h_0 and $2.5h_0$.

The temperature of the outermost fiber of the compressed zone of concrete in beams made of ordinary heavy concrete was 70, 100 and 2000C, in beams made of heat-resistant concrete on alumina cement - 300, 500 and 8000C. During heating and loading, the deformations of longitudinal and transverse reinforcement and concrete in the shear zone, beam deflections, sliding of longitudinal reinforcement, crack opening width, temperature of longitudinal and transverse reinforcement and concrete along the height of the beam section were measured. The results of testing experimental reinforced concrete beams under the action of transverse forces under conditions of one-sided heating are shown in the table.

Results of testing reinforced concrete beams under the action of transverse forces under conditions of one-sided heating

Beams cipher	Temperature, °C				Concrete strength, MPa		Destructive efforts		$\frac{M_{ult}^o}{Q_{ult}^{on}h_0}$	$\frac{Q_{ult}^{on}}{R_{bttem}bh}$	Cause of destruction
	t_{b1}	t_{b2}	t_s	t_{sw}	R_{bte_m}	R_{bttem}	Q_{ult}^{on} κH	M_{ult}^o $\kappa H \square$ \mathcal{M}			
1	2	3	4	5	6	7	8	9	10	11	12
BO-1-20	20	20	20	-	39,5	4,35	190	51,3	1,01	1,02	Shear of the compressed zone of concrete with its crushing
BO-1-70	80	70	28	-	33,2	3,7	164	44,3	1,02	1,05	Shear of the compressed zone of

											concrete with its crushing
BO-1-100	125	106	38	-	30,5	3,5	158,5	42,8	1,00	1,03	Shear of the compressed zone of concrete with its crushing
BO-1-200	245	215	52	-	36	3,9	182	49,1	0,99	1,09	Shear of the compressed zone of concrete and sliding of longitudinal reinforcement
BO-2-20	20	20	20	-	39,5	4,35	75	49,5	2,49	0,41	Shear of the compressed zone of concrete
BO-2-70	80	70	28	-	33,2	3,7	73	48,2	2,43	0,46	Also
BO-2-100	110	96	34	-	30,5	3,5	68	44,9	2,45	0,45	Also
BO-2-200	195	175	48	-	36	3,9	71	46,9	2,50	0,43	Shear of the compressed zone of concrete with its crushing and slippage of longitudinal reinforcement
BO-1-20Π	20	20	20	20	39,5	4,35	255*	68,9*	1,00	1,36	Flowability of longitudinal reinforcement and crushing of the compressed zone of concrete
BO-2-100Π	120	105	37	98	30,5	3,5	90*	61,2	2,57	0,61	Flowability of longitudinal reinforcement and crushing of the compressed zone of concrete
BO-2-200Π	235	198	48	205	36	3,9	92	62,9	2,27	0,56	Loss of adhesion of longitudinal reinforcement to concrete and fluidity of clamps
Б-2-100Π	120	105	37	98	30,5	3,5	90*	61,2	2,57	0,61	Fluidity of rodolite reinforcement and crushing of the compressed zone of

											concrete
BO -2-200П	23 5	1 9 8	48	205	36	3,9	92	62,9	2,57	0,56	Loss of adhesion of longitudinal reinforcement to concrete and fluidity of clamps
БГ-1-20	20	2 0	20	-	35	3,6	239	64,5	1,02	1,55	Shear of the compressed zone of concrete with its crushing
БГ -1-300	38 2	3 2 5	60	-	17	1,25	213	57,5	1,01	4,01	Destruction of the concrete strip between the support and the load
БГ-1-500	56 0	4 7 5	68	-	16	15	187	50,5	1,02	2,96	Also
БГ -1-800	85 6	7 2 5	85	-	15	1,08	122	32,9	1,02	2,68	Destruction of the concrete strip between the support and the load and disruption of the adhesion of longitudinal reinforcement to concrete
БГ -1-20A	20	2 0	20	20	35	3,6	260	70,2	1,01	1,67	Destruction of the concrete strip between the support and the load
БГ – 1-300A	37 7	3 2 0	57	153	17	1,25	195	52,7	1,00	3,61	Also
БГ-1-500A	52 8	4 5 0	71	215	16	1,5	200	54	1,01	3,14	Also
БГ – 1-800A	91 0	7 7 0	95	407	14, 8	1,05	129	34,8	1,02	2,93	Loss of adhesion of longitudinal reinforcement to concrete and shear of the compressed zone of concrete
БГ -2-20	20	2 0	20	-	35	3,6	63	41,6	2,49	0,42	Shear of the compressed zone of concrete
БГ – 2-	33	2	53	-	17	1,25	56	37	2,49	1,08	Also

300	5	9 0									
БГ – 2- 500	53 0	4 7 0	70	-	16	1,5	83	54,8	2,49	1,30	Shear of the compressed zone of concrete with fluidity and penetration of longitudinal reinforcement
БГ-2- 800	78 0	6 5 0	83	-	15, 5	1,10	72	47,5	2,47	1,52	Flow and slippage of longitudinal reinforcement shear of the compressed zone of concrete
БГ – 2- 20A	20	2 0	20	20	35	3,6	78	51,5	2,49	0,51	Shear of the compressed zone of concrete
БГ – 2- 300A	34 2	2 9 5	52	144	17	1,25	103	68	2,46	1,86	Shear of the compressed zone of concrete with its crushing
БГ – 2- 500A	52 8	4 6 0	64	198	16	1,5	81	53,5	2,49	1,27	Shear of the compressed zone of concrete
БГ – 2- 800A	80 2	6 9 0	88	402	15, 5	1,1	67	44,2	2,49	1,48	Loss of adhesion of longitudinal reinforcement to concrete

Note. 1. Legend: t_{b1} - temperature of concrete of the heated edge of the section of the beam, t_{b2} - temperature of concrete at the level of $0.2 h_0$ from the heated edge of the section - the average temperature of the compressed zone of the section, equal to $0.4 h_0$; t_s is the average heating temperature of the longitudinal stretched reinforcement; t_{sw} is the maximum heating temperature of the clamps.

2. The strength of concrete R_{btem} and R_{bttem} is assumed when the concrete is heated to the average temperature of the compressed zone of the concrete section at a distance of $0.2 h_0$ from the most compressed edge of the section.

3. * - in case of destruction along the normal section.

RESEARCH RESULTS

With unilateral heating of beams made of ordinary heavy concrete, the temperature deformations of the extreme concrete fiber of the most heated face with an increase in temperature from 70 to 200 ° C increased from $60 \cdot 10^{-5}$ to $150 \cdot 10^{-5}$ and in beams made of heat-resistant concrete on alumina cement from $180 \cdot 10^{-5}$ at 300°C up to $350 \cdot 10^{-5}$ at 800°C. From uneven heating and curvilinear temperature distribution over the height of the section to the formation of cracks, a

stress state with self-balanced stress diagrams arises. Compression stresses, reaching 10 MPa and more appear on the edges, and tensile stresses appear in the middle part of the section height.

Curvilinear temperature distribution over the height of the section to the formation of cracks, a stress state with self-balanced stress diagrams arises. Compression stresses, reaching 10 MPa and more, appear on the edges, and tensile stresses appear in the middle part of the section height. At a temperature difference of 80-120⁰C - in beams made of ordinary heavy concrete and 150-180⁰C - in beams made of heat-resistant concrete, tensile stresses reached the tensile strength of concrete and caused cracks to appear in the middle of the height of the beam section. Longitudinal reinforcement, located at the less heated edge of the beam, in beams made of ordinary heavy concrete was heated up to 55⁰C, and in beams made of heat-resistant concrete on alumina cement - up to 95⁰C. The maximum heating temperature of clamps in beams made of ordinary heavy concrete did not exceed 200⁰C, and in beams made of heat-resistant concrete on alumina cement - 450⁰C.

Compression deformations occurred in longitudinal reinforcement from a temperature difference with a curvilinear diagram of the temperature distribution along the height of the section: in beams made of ordinary heavy concrete, with an increase in temperature from 70 to 200⁰C, they increased from $-5 \cdot 10^{-5}$ to $-20 \cdot 10^{-5}$, in beams from heat-resistant concrete, with an increase in temperature from 300 to 800⁰C, they increased from $-20 \cdot 10^{-5}$ to $-40 \cdot 10^{-5}$. Compression deformations arose from unilateral heating in the clamps, the maximum values of which were: in beams made of ordinary heavy concrete $-4 \cdot 10^{-5}$ - at 70 ° C, $-6 \cdot 10^{-5}$ - at 100⁰ ° C, $-10 \cdot 10^{-5}$ - at 200⁰ ° C; in beams made of heat-resistant concrete on alumina cement $-6 \cdot 10^{-5}$ - at 300⁰C, $-12 \cdot 10^{-5}$ - at 500⁰C and $-20 \cdot 10^{-5}$ - at 800⁰C at the extreme fiber of the concrete in the compressed zone.

With one-sided heating, the beams received a temperature deflection with a bulge towards the furnace, the value of which in beams made of ordinary heavy concrete was 1.4-4.2 mm, in beams made of heat-resistant concrete - 3.2-8.5 mm. When the beams were loaded, the compression deformations of the longitudinal reinforcement and yokes gradually decreased and turned into tensile deformations. In inclined planes perpendicular to the expected direction of an inclined crack in concrete, tensile deformations develop, in the most heated compressed zone - compression deformations. The thermal deflection of the beam decreases and deflection develops in the direction of the load. With an increase in temperature at the extreme concrete fiber of the compressed deformation zone of longitudinal reinforcement, clamps, concrete, and the deflections of the element from the load increase. During loading, vertical cracks that did not reach the level of longitudinal reinforcement, formed in the middle of the section height from the curvilinear temperature distribution, began to close; some of them closed completely, others reduced the width of the opening and, after the formation of normal cracks from the load from the side of the stretched zone of the section, merged with them. From the load in the beams, with a shear span of $2.5h_0$, at first normal cracks appeared in the zone of pure bending, then in the zone of action of transverse forces and moments - oblique ones. During the passage of the shear h_0 , inclined cracks were formed simultaneously with normal ones. With an increase in the heating temperature of the extreme concrete fiber in the compressed zone, the crack resistance of inclined sections of beams from ordinary heavy concrete decreases, and from heat-resistant concrete on alumina cement, it increases. Reinforcement with clamps and an increase in the percentage of longitudinal reinforcement increases the crack resistance of inclined sections of bending elements during unilateral heating. When the shear $2.5h_0$ passes through, one critical oblique crack is formed in beams without clamps, and oblique cracks are formed in beams with

shear clamps h_0 , which develop in the direction of the load and the support. At high temperatures, the development of an inclined crack is observed horizontally, at the level of the longitudinal reinforcement to the ends of the element, as well as its entry into the zone of pure bending. The opening width of inclined cracks increases with an increase in the heating temperature, an increase in the load and the shear span. With an increase in the percentage of transverse and longitudinal reinforcement, the crack opening width decreases. Fracture of beams along an inclined section during the passage of a cut $2.5h_0$ occurs mainly from the shear or crushing of concrete in the compressed zone; during the passage of the cut h_0 - from crushing an inclined compressed concrete strip. In beams made of ordinary concrete at 200°C , in beams made of heat-resistant concrete at 500 and 800°C , sliding of longitudinal reinforcement is observed. The strength of inclined sections of beams made of ordinary concrete with one-sided heating to 70 , 100 and 200°C , respectively, decreases with a shear span h_0 by 14.18 and 4% , at $2.5h_0$ - by 3.10 and 6% ; beams made of heat-resistant concrete on alumina cement with one-sided heating up to 300 , 500 and 800°C - with the shear span h_0 decreases by 1.22 , 1.30 and 2 times, respectively, and at $2.5 h_0$ the strength slightly increases. With an increase in the shear span from h_0 to $2.5h_0$, the strength of the beams along the inclined section decreases by an average of 2.4 times.

The performed analysis showed that for bending reinforced concrete elements under the action of transverse forces and one-sided heating, the following is characteristic:

- Before the formation of oblique cracks, stresses in concrete on planes perpendicular to the expected oblique crack reach or exceed the value of concrete tensile resistance when heated;

In case of destruction of an element along an inclined section:

- Stresses of longitudinal reinforcement at the intersection with an inclined crack can reach the yield strength of the reinforcement when heated;
- Stresses in the clamps reach the yield point of the reinforcement, taking into account the maximum temperature of their heating;
- The stresses in the concrete of the compressed zone above the inclined crack reach the value of the resistance of concrete to compression when heated.

The change in the strength and deformation properties of concrete and reinforcement during heating has a decisive effect on the crack resistance and strength of a bending element along an inclined section. Therefore, when choosing a design model, the main attention was paid to the establishment of design stress diagrams in concrete (Fig. 1).

The stress plots in concrete under and above an inclined crack during heating are identical to the corresponding plots at normal temperature. The completeness of the stress diagram in concrete increases during heating. The diagram of normal stresses σ_x in concrete above an inclined crack has a curvilinear character and increases to the value of R_{btem} on the most compressed face of the section. Under the inclined crack, the normal stress diagram is also curvilinear: from zero, above the tip of the normal crack, it grows to R_{btem} at the tip of the inclined crack. [10-18] The diagram of tangents is stressed parabolic, with a maximum of τ_{hmax} at the tip of an inclined crack. The calculated diagrams of tangential stresses for members without clamps are taken in the section above normal cracks, in members with clamps at the entire height of the section. Possible deviations of the accepted design diagrams from the actual ones are taken into account by the stress completeness coefficients ω_i .

The proposed new method for calculating the strength of inclined sections of bent reinforced concrete elements operating with one-sided heating has high accuracy and reliability, the essence of the phenomenon is correctly reflected and gives a better match with experience. The ratio of the experienced shear force to the theoretical for beams made of ordinary heavy concrete was 1.05, for beams made of heat-resistant concrete - on alumina cement - 1.18, on Portland cement - 1.20 and on liquid glass - 1.23 [1-10] .

Before the destruction of reinforced concrete beams along an inclined section with one-sided heating, the total transverse force is perceived:

In beams without clamps:

- Compressed concrete over an inclined crack - 16-44%;
- The total value of the thrust forces in the longitudinal reinforcement and the forces of engagement in an inclined crack - 56-84%;

In beams with clamps:

- Compressed concrete over an inclined crack - 8-33%;
- Clamps - 12-51%;
- The total value of the thrust forces of the longitudinal reinforcement and the forces of engagement in an inclined crack is 22-69%.

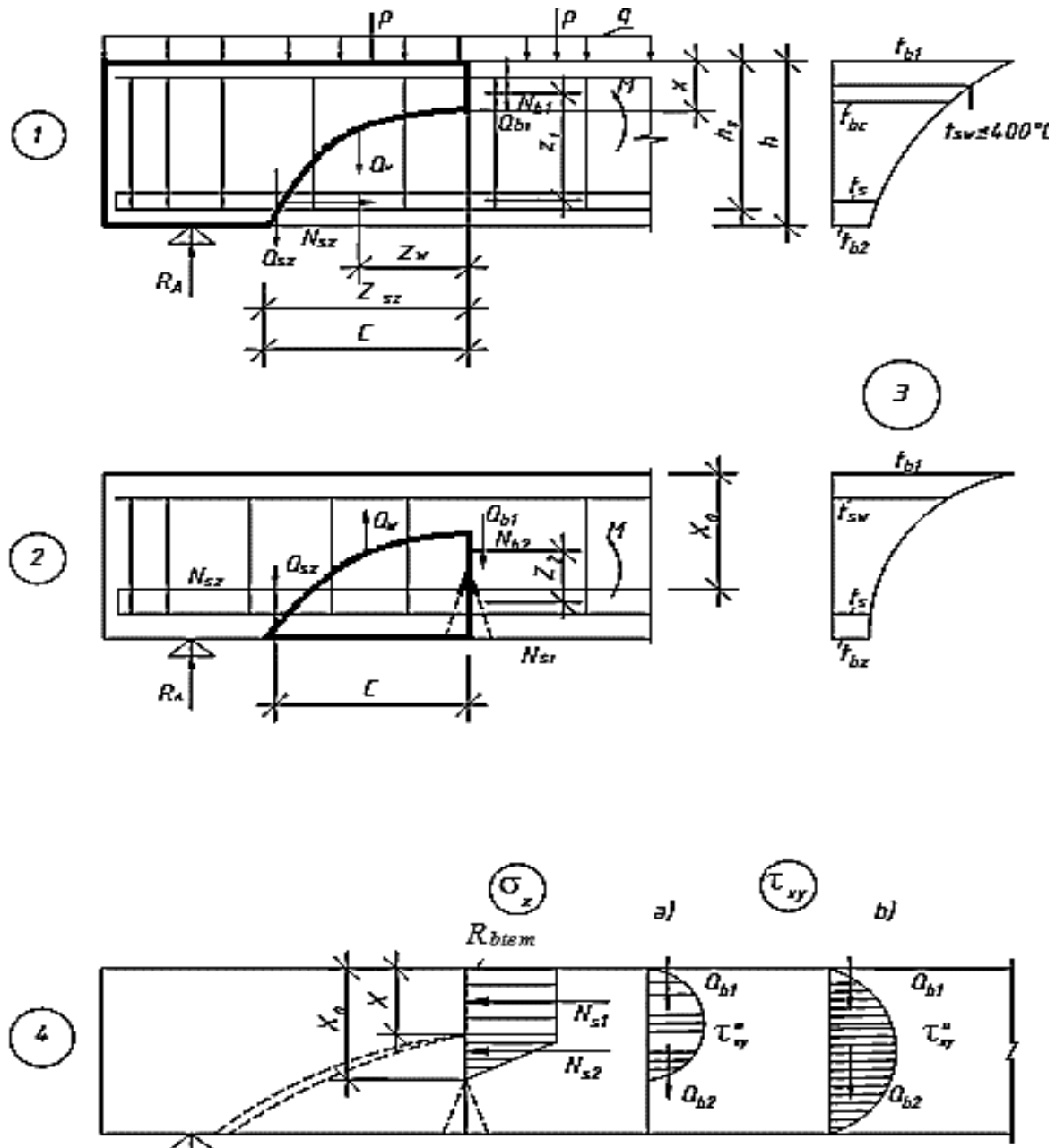


Fig. 1. The design model of a bending reinforced concrete element when calculating the action of a shear force in conditions of high and high temperatures: 1-in the upper block; 2-in the lower block; 3-temperature distribution along the section height; 4-design stress diagrams: a - in elements without transverse reinforcement; b-with clamps

The relative value of the shear force perceived by the compressed concrete above the inclined crack during heating remains approximately the same as at normal temperature, the shear force perceived by the clamps slightly decreases, and the relative value of the sum of the nail forces and engagement increases.

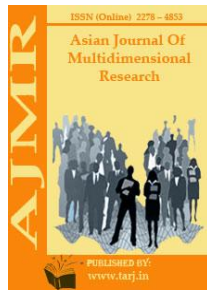
CONCLUSION

The performed experimental studies allowed us to obtain new data on the operation of bending reinforced concrete beams under the action of transverse forces under conditions of the action of one-sided heating. On the basis of experimental data, practical recommendations were developed for calculating the strength of inclined sections of bent reinforced concrete elements made of ordinary and heat-resistant concretes operating under the influence of technological temperatures [6], which allows a more correct assessment of the design strength of an element along an inclined section, increasing their reliability and durability at operation and provide savings in steel, reduce the cost and labor intensity of the manufacture of structures and achieve a significant economic effect.

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IMPROVEMENT OF TECHNOLOGY TECHNOLOGY MANUFACTURING WOOD, WOOD WITH SULFUR SOLUTION

Zarnigor Alisher qizi Mirzaeva*

*Fergana Polytechnic Institute,
Fergana, UZBEKISTAN

Email id: z.mirzayeva@ferpi.uz

ABSTRACT

The article provides practical recommendations for improving the technology of modifying poplar wood with sulfur solution used in construction practice. The parameters of the optimal mode of organizing the process in the hot-cold bathing method have been developed. In the Republic of Uzbekistan, there is a shortage of wood raw materials used in construction. It is known that coniferous timber (high strength) is grown mainly in the forests of Russia, due to the small number of forests in our country and the growth of only logs from local timber (Mirzaterak, California logs), as well as their low durability. If we take into account the rapid growth of poplar, it will be possible to increase the durability of this type of wood and their wide spread use in infrastructure facilities.

KEYWORDS: *poplar wood, sulfur solution, impregnation rate, temperature-time regime, humidity, energy intensity, porosity, strength.*

1 INTRODUCTION

In the Republic of Uzbekistan, there is a shortage of wood raw materials used in construction. It is known that coniferous timber (high strength) is grown mainly in the forests of Russia, due to the small number of forests in our country and the growth of only logs from local timber (Mirzaterak, California logs), as well as their low durability. If we take into account the rapid growth of poplar, it will be possible to increase the durability of this type of wood and their widespread use in infrastructure facilities.

Although building codes and regulations provide for the protection of wood, many woodworking enterprises produce wood products and structures without protecting (soaking) the wood, resulting in them becoming unusable without much work. [1-21] This requires the implementation of immediate protection of wood technology, which leads to the need to modify them.

It is necessary to improve the technology of soaking the logs with sulfur solution, ie the optimization of the soaking regime and the technological process of soaking.

2. Methods for optimizing the mode of impregnation of wood in sulfur solution:

There are several ways to optimize the mode of soaking wood (logs) in a solution of sulfur. In the first method, the moisture content of the wood, the initial temperature of the solution and the duration of impregnation are taken as the factors influencing the degree of absorption of the sulfur solution into the wood, in the second method the porosity of the wood, the cooling rate of the boiling solution and the temperature drop.

Comparing the known methods of soaking wood with each other, the best method is to soak in a "hot-cold" bath.

The main factors influencing the absorption of sulfur solution into wood are:

- Duration of heating wood in a "hot" bath
- Duration of cooling of the sulfur solution
- The duration of storage of wood in the "cold" bath.

The studies used mathematical modeling methods to optimize the parameters of the wood impregnation process in sulfur solution and multifactor optimization methods of 23 types of experiments. The use of such a method allows to take into account the impact of all factors, as well as to reduce the number of experiments and qualitative assessment of the degree of soaking, to determine the optimal method of soaking.

Three factors were varied to optimize the soaking regime; X1 - duration of heating wood in a hot bath, min; X2 - duration of cooling the solution temperature in a cold bath, min; X3 - duration of soaking wood in a cold bath, min;

Factor variation intervals and levels are based on the data given in the norms.

The numerical values of the mathematical planning factors of the experiment are given in Table 1.

TABLE-1

№	Factors	Sign of factors		
		X ₁	X ₂	X ₃
1.	Variation interval	15	10	30
2.	Basic level	45	30	50
3.	High level	60	40	80
4.	Low level	30	20	20

The temperature of the "hot" bath was set at 1600C, at which point the sulfur chain breaks and the solution has the lowest viscosity, and reptile chains are formed. This makes it easier for vapors to escape from the wood's pores, allowing the sulfur solution to seep into the wood's fibrils. The temperature of the cold bath is set at 1200C, which leads to more damage to the

wooden capillaries due to the difference in temperature of hot-cold baths, which in turn plays a key role in the adopted method of dipping.

3. ANALYSIS OF EXPERIMENTS.

Analysis of the results shows that the degree of absorption of sulfur solution in wood has the greatest effect on the duration of soaking wood in a cold bath. The minus (-) signs in front of the coefficients are directly proportional to the rate of sulfur absorption for factors X1 and X2, the rate of heating of the wood in a hot bath, and the rate of cooling of the solution to the temperature of the cold bath. This confirms the theoretical research on the impregnation of porous materials in solution.

According to the results obtained, the parameters of the optimal mode of the process of soaking wood in a solution of sulfur in a hot-cold bath are as follows:

- Duration of heating wood in a hot bath - 30-35 minutes;
- Cooling time of the solution - 5-10 minutes;
- Duration of soaking in a cold bath - 80 - 90 min.

Let's compare the optimal mode of spraying terracotta with other deciduous trees. To do this, we take a mountain whose anatomical structure, that is, its micro- and macrostructure, is close to it. For comparison, we accept the process of soaking the sheets in a solution of sulfur.

Here, too, this process is carried out by the method of hot-cold baths, the results of which are performed graphically and are shown in Figure 1.

The temperature-time soaking mode of the compared variants consists of the following sections. (Figure 1.)

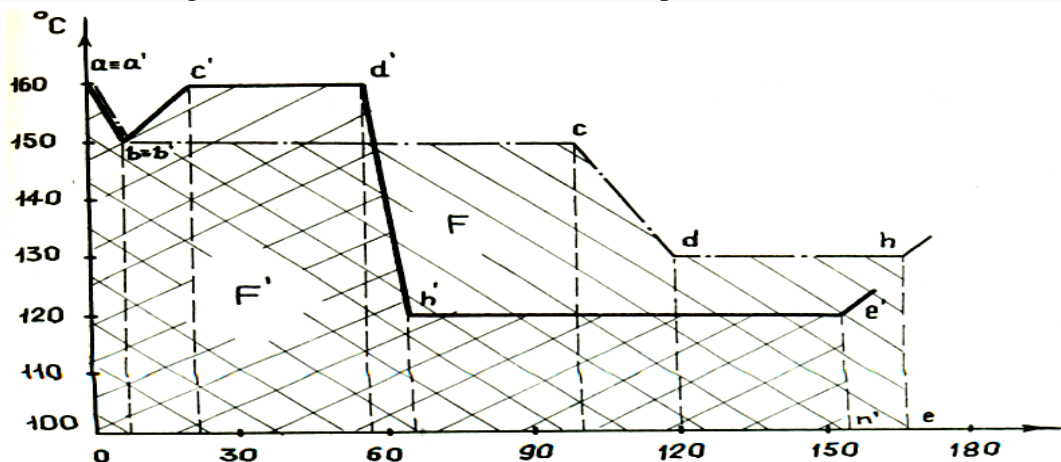
ab, a¹b¹ – the area of a sharp drop in temperature as a result of bathing wood in a hot bath;

Bc, c¹d¹ – wood soaking area in a hot bath;

cd, d¹h¹ – temperature difference of sulfur solution;

DH, h¹e¹ – a plot of soaking wood in a cold bath

b¹c¹ – the site of heating the sulfur solution to the initial temperature of the hot bath;



Picture. 1. Temperature time mode of soaking in a solution of sulfur - and poplar; The main indicator for comparison was the amount of energy required to soak the wood

in a 1% solution of sulfur, or to increase the soaking rate of the wood by 1%.

If the conditional energy is the same as the surface (F) of the polygon "absdhe" for a log, then for $F^1 c^1 d^1 h^1 e^1 n^1$ and (F'1), which are bounded by the broken coordinate axes and showed the lines of the immersion process.

Solution temperature

numerical quantities of these surfaces are as follows;

terak:

$$\sum \Pi_i t_i, \text{ grad.}x. \text{ min.}$$

→ togterak

$$\sum \Pi'_i \cdot t'_i, \text{ grad.}x. \text{ min.}$$

Where:

Pi is the duration of the soaking mode section, min;

t_i -if we take the ratio of the numerical quantity of these surfaces to the degree of soaking, then the efficiency of the soaking process is obtained. For Togterak

$$\frac{F}{S_{\text{togterak}}}, \text{ grad. oclok. / min. \%}$$

– forterak

$$\frac{F'}{S_{\text{fterak}}}, \text{ grad. oclok / min. \%}$$

It can be seen that the energy consumption of soaking a poplar in a sulfur solution is lower than that of a poplar under the same conditions, or that the conditional amount of energy required soaking a poplar in 1% sulfur solution is 1.6 times less.

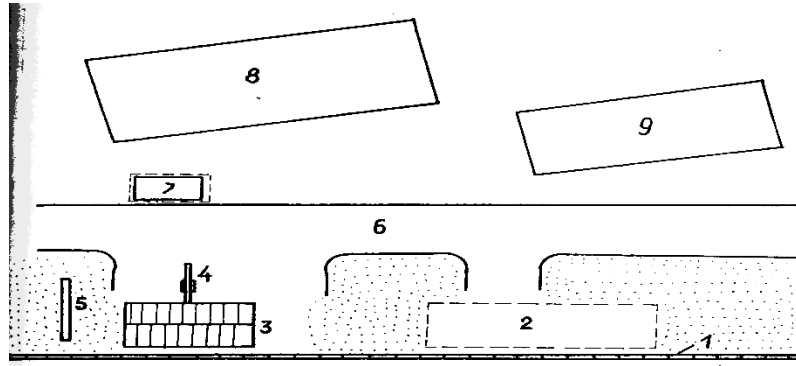
This indicates the abundance of pores in the macro and microstructure of the poplar and the development of permeable tubes. (compared to porous pores) 10 - 20% more, it is clear that soaking poplars in a solution of sulfur is somewhat more effective than soaking poplars, but the effectiveness of soaking poplars is not only due to the large porosity of poplars (1.1 - 1.2 times) also depends on the physicochemical effects.

Based on several years of experience, many authors have developed a scheme of the technological process (plot) for soaking wood in sulfur solution, based on research; we will give a brief description of these schemes.

The general plan of the site is shown in Figure 2.

The technological process of soaking is carried out as follows: the sulfur solution is filled into 4 baths, taking into account the amount of wood to be soaked from 7 concrete pools (the solution in the bath in which the wood is lowered should not drip). Then the electric heaters are turned on and the solution temperature rises to the required level. (1550 - 1600 for "hot" bath; 1200S – 130grad for "cold" bath). The electrification devices are then disconnected from the power supply, and the prepared 2 wooden packages are fastened to the container and tested in a "hot" bath with a special load. After holding the wood in a hot bath for 30-40 minutes, 7 pumps are

started and the hot sulfur solution is pumped into the "cold" chamber, which does not mix with the "cold" solution, because the density of "hot" sulfur is 1.77-1.78 t / m³, 120 - Density of cold solution 130grad 1.8 - 1.81 t / m³. Thus, a layer of "hot" solution is formed on the surface of the cold solution, which creates a hydrostatic pressure, and after 10-15 minutes the difference in hydrostatic pressure is felt due to the height of the solution.



Picture. 2. General plan of the area of wood impregnation in sulfur solution; 1 - reinforced concrete container; 2 - storage area for wooden parts; 3 - terrace over the bath; 4 - cantilever monorails for trolleys; 5 - fire shield; 6 - asphalt road; 7 - concrete pool for sulfur storage; 8,9 - Auxiliary buildings.

Then a 6-gauge faucet located on the curtain wall with thermal insulation is opened and a sulfur solution with a temperature i 120 - 1300S flows into the chamber where the wooden parts are. The pump 7 runs for 50-60 minutes until the solution passes into the chamber, then the shut-off valve is closed. Originally soaked in "hot" temperature, the wooden packages now have a temperature of 120 - 1300S / h, which corresponds to the recommendations determined experimentally [6].

The duration of soaking wood products in a cold chamber is 0.5 - 1.5 hours, depending on the degree of soaking the wood in sulfur solution.

At this time, the solution temperature in the hot chamber is 150 – 160grad C, in which new wooden packages can be placed. (20 to 30 minutes before removing the wooden packages from the cold chamber) [6-21].

The shelf life of wooden packages in "hot" and "cold" chambers may vary slightly depending on the type of wood and its humidity. If it takes a total of 145 minutes to soak the logs, this time is 120 minutes for the logs, with both types of wood absorbing the same amount of sulfur solution.

In terms of mass, the percentage of soaking of poplar wood is higher than that of log (196% - poplar and 140% log) because the structure of the poplar is relatively porous.

If a two-chamber bath is used effectively, the duration of the wood soaking cycle is 90 minutes when the new package is loaded after a maximum of 30 minutes and when the wood is loaded after soaking. Wood soaking efficiency is up to 3 times higher, and the soaking quality of wood is also improved.

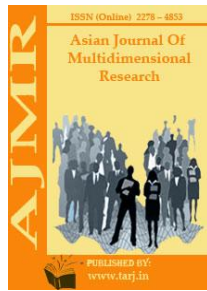
4. CONCLUSION

Modification of poplar wood with sulfur solution in this way allows to improve the quality of structural poplar wood, improve the performance of wooden structures made of it and increase the service life.

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REASONABLE DESIGN OF CEMENT COMPOSITION FOR REFRACTORY CONCRETE

Zebuniso Asrorovna Abobakirova*

*Fergana Polytechnic Institute,
Fergana, UZBEKISTAN

Email id: z.abobakirova@ferpi.uz

ABSTRACT

The article discusses the way of generating combined cementing materials with microfiller and gel-polymer admixture is shown. Results of conducted research on an establishment of dependence of durability of the combined cementing materials from their dispersion are given. It is shown that durability of cement stone and methods of definition of activity of cement in general method of designing structure serve as the tool for an operational administration of the technological process of manufacturing of concrete (heavy, light). At the expense of increase in a subtlety of a grinding it is possible to increase activity of combined cementing, and proceeding from dependence of last on a dosage additive and duration of a grinding, it is possible to allocate three groups of the cementing. Increase of activity of combined cementing at the expense of introduction of gelpolymer in structure is found.

KEYWORDS: *Cement Composition, Dispersion Knitting, Activity, Gelpolymer, General Method, Microfiller, Manufacturing Of Concrete.*

1. INTRODUCTION

The increasing necessity for corrosion-resistant concrete is caused by the fact that the rate of aggressive environmental influence on building structures has recently significantly increased. This is the result of a violation of the ecological balance and violation of a number of requirements of the norms - low waterproofing ability of structures (basement walls, plinths, and foundations), imperfection of a number of structural elements, including expansion joints, gutters, joining of the blind area to the building, absence or unsatisfactory operation of operational services. Reasons associated with the low quality of concrete or the low quality of construction work played an important role. All these reasons lead, in the end, to one form or another of corrosion of concrete.

The quantitative and qualitative composition of any concrete, including corrosion-resistant, as you know, largely depends on the choice of composition engineering methodology. In this case, as a rule, the optimal structure should correspond to the optimal composition.

As a basic method of engineering of the appropriate composition of cement corrosion-resistant concrete in our studies, we adopted the general method in accordance with the provisions of the general theory of artificial building conglomerates (ISC), developed by professor I.A. Rybiev and his science school [1-25]. At the same time, appropriate structures correspond to improved quality indicators of materials in comparison with non-appropriate ones. This improved quality is due to the increased density, the minimum amount of liquid medium, the increased concentration of the solid phase, the minimum pore volumes in the contact zones and a number of other reasons, especially of an energy nature. A valuable advantage of appropriate structures is their similarity with each other, which is proved by a theorem in the theory of ISC. In particular, this means that the pattern revealed in relation to one material can be extended to others if their structures are appropriate.

The peculiarity of the general engineering method for ISC is that at the first stage of design, the greatest activity of the binder is established by the compressive strength (R^*) at the optimum value of the water-binder ratio (W^*/W). The desire for a comprehensive increase in the strength of cement is justified for the reason that its quantity in the conglomerate depends on the strength of cement and the greater the strength, the more the consumption of the cement decreases. In accordance with the law of obligatory conformity of properties in the ISC theory, all strength, deformative, and other properties of a conglomerate are directly related to the same properties of a binder, and with optimal structures, their relationship is most fully manifested.

Scientists have proven [2] that the binder functions in the materials with a conglomerate type of structure in a binder. It has sufficient uniformity of composition and properties, with the necessary (appropriate) amount forms a uniform continuous spatial grid. By changing the properties of the binder, as the matrix part of the ISC, it is possible to directionally regulate and improve the properties of the conglomerate.

The dependence of the hydraulic activity of a Portland cement binder on its dispersion is extreme [3]. A linear dependence of the strength of Portland cement at a daily age on its dispersity was established [3].

But the intensification of cement hardening only by increasing its dispersion has a number of difficulties, which include a large consumption of process fuel and the deterioration of a number of construction and technical properties (increased shrinkage, tendency to crack formation, reduced frost resistance, etc.) [4].

When establishing the optimal composition of a cement binder, the dependence of the strength of the binder on its water-binder ratio is determined under accepted technological conditions. Moreover, there are many such dependencies corresponding to different ratios of the constituents of the binder - Portland cement clinker, gypsum stone with varying dispersion within the established limits. But any of these dependences has an extreme of strength corresponding to a point with an optimal composition of normal or accelerated cement binder, which has an optimal structure with this production technology. For experimental determination of strength, a number of samples were prepared at different water-binding ratios [4-18]. In this case, the identified optimal technological parameters of mixing, compaction, hardening and other processing steps and their conformity to that accepted at the production site were taken into account..

1.1. METHODS

This Studies [4,5] suggested the preparation of a binder in the activator of periodic action with intensive mixing in a liquid medium. The dosed components are mixed with water for 30-60 seconds with an optimal speed of the rotor shaft, fixed in the range of 800-1000 min⁻¹, and established during preliminary experiments from the dependence of the strength of cement stone on the intensity of mixing of the binder in the activator with different rotational speeds shaft.

The cement test is sealed on a vibrating table with an amplitude of 0.3-0.6 mm with an oscillation frequency of 2900-3000 count / min for 15-20 seconds. Vibration is carried out without a load and with a load at a specific pressure on the surface of 0.3 MPa (imitation of vibration rails adopted at the factory).

Hardening of the samples is carried out under normal temperature and humidity conditions ($T = 20 \pm 2 \text{ } ^\circ\text{C}$ and $\text{RH} = 100\%$), as well as during heat treatment with a regime of 2 + 3 + 6 + 4 h at a temperature of $T = 80 \pm 5 \text{ } ^\circ\text{C}$. Preliminary studies [4-21] found that with this hardening mode, the binder gains up to 90% of brand strength.

Then, in the coordinate system, the extreme dependences of the compressive strengths of cement stone on the water-binder ratio were constructed for various specific surface of the binder (**Fig. 1**).

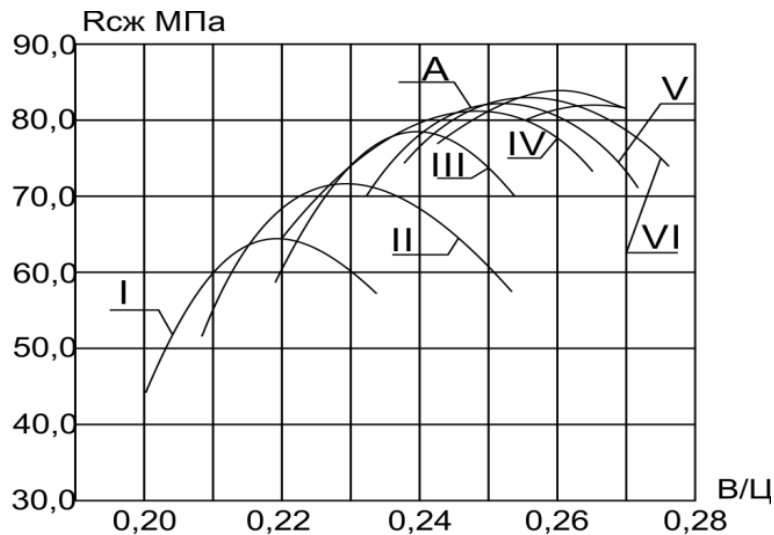


Fig. 1. The dependence of the compressive strength of cement stone on the water-cement ratio for various specific surface portland cement binder. Curve A - envelope of cement binders of optimal structure; the curve with indices I, II, III, IV, V, VI corresponds to the specific surface area (m² / kg) of a Portland cement binder, respectively, at a grinding time of 30', 45', 60', 90', 120', 180'. I - 280 m² / kg; II - 320 m² / kg; III - 370 m² / kg; IV - 400 m² / kg; V - 450 m² / kg; VI - 520 m² / kg /. (note: digital data taken from [4]).

Extreme strengths (activity) correspond to the values of the compositions of the binder normal or accelerated hardening with the optimal structure of cement stone with the adopted technology, the modes of preparation and hardening of samples.

The regulation of the properties of cement binder in order to increase its strength is possible by changing the material composition, including the introduction of additional (modifying) substances.

Chemical additives (surfactants, dispersants, etc.) that allow you to control the processes of structure formation in binders and conglomerates, starting with solid-phase reactions in the grinding process, modify their properties [6-17].

Moreover, from a large number of currently known chemical additives, one is selected that exerts a multifunctional modifying effect on the grinding process and structure formation of cement systems.

The phenomenon of adsorption modification, established by P. A. Rebinder, is explained by the fact that when nuclei of future crystals appear, their surface is covered with surfactant molecules. In this case, the growth of the initial crystals slows down, but during the time during which the crystallization process takes place, they are formed in a very large amount in a unit volume. Reducing the size of the crystals always helps to improve the structural and mechanical properties of cement stone and concrete.

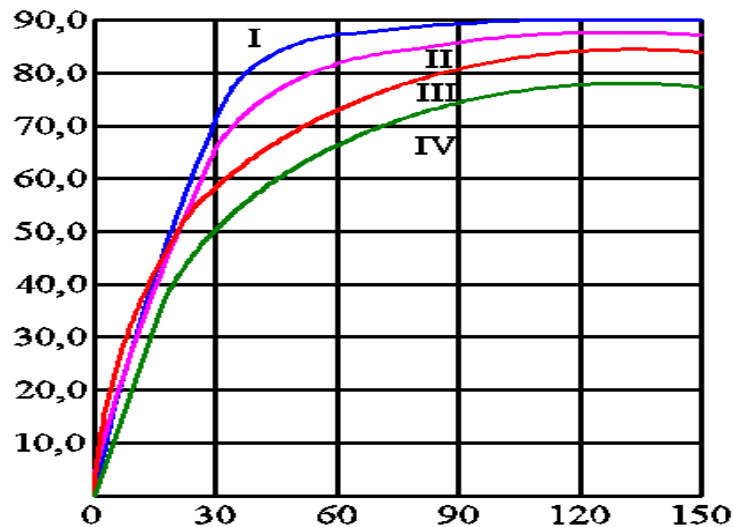
Of the chemical additives of the ionic type, which at the moment are the most expedient, are very stable cationic, upon dissociation of which a small anion and a cation with a long hydrocarbon chain are formed.

Of particular interest are cationic additives of water-soluble polymers, creating an additional structure in hardening cement stone. The spatial system of polymer films (membranes), which is formed inside a cement stone, increases its tensile strength and serves as a microdamping element that increases wear resistance, corrosion resistance and facilitates relaxation processes in the hardening system.

As a chemical additive, a water-soluble multifunctional acrylate additive was used - a waste product of the production of a nitron fiber, called Poly-ans-2, which belongs to the group of hydrogels (gel polymers).

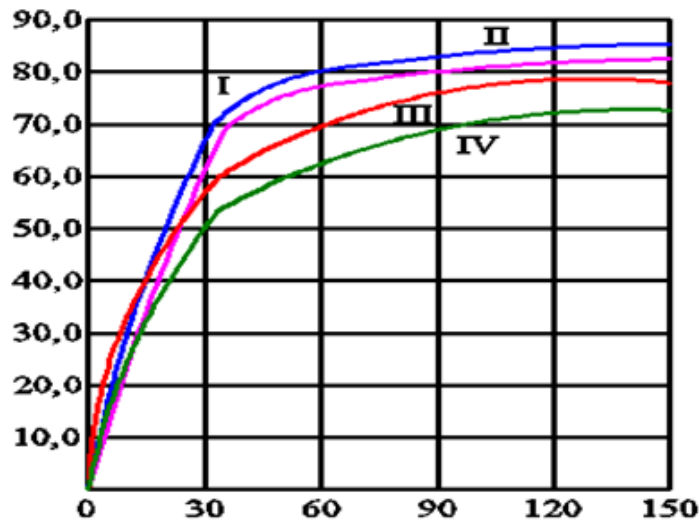
Studies [7] showed that gel polymers are involved in the process of structure formation, providing the last stage of hydration with a high degree of crystallization of the hydrated components of cement.

The studies performed by the authors on the modification of cement binder with Poly-ans-2, polyacrylate confirmed the advisability of using this additive to increase its activity. The results are shown in **Fig. 2**.



Grinding Time in Minutes

Fig. 2. The dependence of the compressive strength of cement stone without the addition of Poly-ans-2 on the grinding time: I - Portland cement; II - cement binder with 15% microfill (ash TPP); III - the same with 25% micro-filler (ash TPP); IV - the same with 40% microfill (ash TPP)



Grinding time in minutes

Fig. 3. The dependence of the compressive strength of cement stone with the addition of 0.002% Poly-ans-2 on the grinding time: I - Portland cement; II - cement binder with 15% microfill (ash TPP); III - the same with 25% micro-filler (ash TPP); IV - the same with 40% microfill (ash TPP)

RESULTS AND DISCUSSION

Analysis of the available data indicates an increase in the activity of cement binder in the presence of 0.002% Poly-ans-2 additives by 15%.

The optimal compositions of cement binders obtained with different contents of micro-filler (ash TPP) according to [4] are shown in table 1.

TABLE 1 OPTIMUM CEMENT BINDERS

№	Components of cement-ash binder with an optimal grinding time of 45 min				Compressive strength, MPa, R* 28	W*/W
	1).Portland cement clinker, %	2) gypsum block, %	Ash, %	3) additive Poly-ans-2, %		
1	82,0	3	15	0,002	75,9 ^{x)}	0,220
2	72,4	2,6	25	0,002	77,6 ^{x)}	0,225
3	57,9	2,1	40	0,002	67,2 ^{x)}	0,245
4	38,6	1,4	60	0,002	37,6 ^{x)}	0,285

1) Tested halves of beams 4x4x4 cm in size (number of samples 3);

2) The optimum amount of gypsum stone was found to be 3.5% by weight of Portland cement clinker;

3) The optimal amount of Poly-ans-2 additive is determined by the weight of the binder.

The performed design of the optimal compositions of cement binders for corrosion-resistant concrete according to the general method of the ISC theory allows us to determine the optimal region of structures with high quality characteristics in the range of water-binders and to select the most rational one from them [8-25].

CONCLUSIONS

Thus, by increasing the fineness of grinding, it is possible to increase the activity of the cement-ash mixed binder, and based on the dependence of the latter on the dosage of ash and the duration of grinding (Fig.3,4) it is possible to allocate three groups of the binder:

1. - with ash dosage up to 20%, when the activity of cement-ash binder practically does not differ from the original additive-free cement at the same energy costs for grinding;
2. - with a dosage of ash from 20 to 40-50%, when there is a proportional decrease in the activity of the binder and then in this range it is rational to compensate for the decline in the strength of the binder by increasing the dosage of ash by increasing the fineness of grinding;
3. - with a dosage of ash more than 50%, when there is a noticeable decrease in the activity of the binder, and the latter is difficult to compensate for the increase in the fineness of the binder due to the increase in the duration of grinding.
4. -An increase in the activity of the mixed binder was found due to the introduction of a gelpolymer additive into the composition during grinding of the binder [10,11]. The reagent polymer polyacrylonitrile hydrolyzed stabilizing was used. In the course of preliminary experiments, it was found that the greatest effect is achieved when it is introduced in hundredths of the mass of cement. On the basis of the above, it follows that the methods of determining the activity of cement by the General method of designing the optimal composition of CONCRETE serve as a tool for operational control of the technological

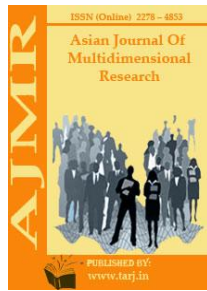
process of manufacturing concrete (heavy, light). Thus it is possible to adjust production compositions of concrete mixes taking into account actual activity of cement.

-To adjust the production compositions of concrete mixtures, it is possible to use specially designed nomograms that establish the dependence of the activity of cement, concrete class, In / C and, as noted above, the higher the value of R^* , the more the consumption of the binder is reduced.

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SYNCHRONOUS MACHINES AND COMPENSATORS

Kamolov Nosirjon Kamolovich*; Norkhojayeva Nargiza Nasirovna**

*Candidate of Technical Sciences,
 **Senior Lecturer,
 Fergana Polytechnic Institute,
 UZBEKISTAN

ABSTRACT

This article describes how to manufacture and apply synchronous machines. The production and maintenance of synchronous machines is illuminated by the ability to perform what kind of work, depending on the poles. In the synchronous machine, one of the winding is connected to the alternating current power network, and the other is driven by a direct current. The armature winding converts all the electromagnetic power of the synchronous machine into electrical power and vice versa.

KEYWORDS: Rotor, Stator, Synchronous Machine, Generator, Electric Motors, Gasoline Engines, Generator Mode, Motor Mode, Mechanical Characteristic.

INTRODUCTION

Synchronous machines are variable current electric machines in which the magnetic field of the rotor and stator currents are converted synchronously. Three-phase synchronous generators are the most powerful electrical machines. The unit capacity of synchronous generators in HPS is 640 MW, and in HPS - 8-1200 MW. In the synchronous machine, one of the winding is connected to the alternating current power network, and the other is driven by a direct current.

The armature winding converts all the electromagnetic power of the synchronous machine into electrical power and vice versa. Therefore, it is usually placed on the stator, which is called an anchor. The excitation winding consumes 0.3 - 2% of the converted power, so it is usually placed on a rotating rotor, which is called an inductor and a small excitation power is supplied through contact rings or contactless excitation devices.



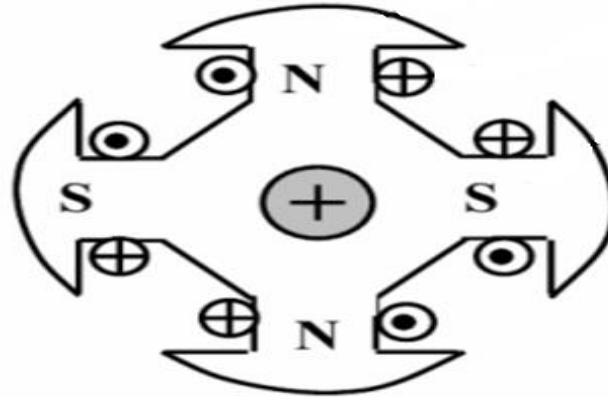
The magnetic field of the armature rotates at a synchronous speed $n_1 = 60f_1/p$, rpm, where $p = 1, 2, 3 \dots 64$, etc. is the number of pairs of poles.

At the frequency of the industrial network $f_1 = 50$ Hz, a number of synchronous speeds at different numbers of poles: 3000, 1500, 1000, etc.). Since the magnetic field of the inductor is stationary relative to the rotor, for continuous interaction of the fields of the inductor and the armature, the rotor must rotate at the same synchronous speed.

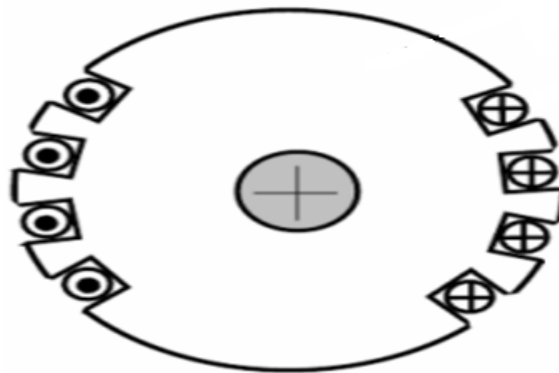


Design of synchronous machines

The stator of a synchronous machine with a three-phase winding does not differ from the design of the stator of an asynchronous machine, and the rotor with an excitation winding is of two types - explicit and implicit. At high speeds and a small number of poles, non-pole rotors are used, as having a more robust structure, and at low speeds and a large number of poles, single-pole rotors of a prefabricated design are used. The strength of such rotors is less, but they are easier to manufacture and repair.

Single - pole rotor:

They are used in synchronous machines with a large number of poles and, accordingly, relatively low n . hydroelectric power plants (hydrogenerators). frequency n from 60 to several hundred rpm. The most powerful hydro generators have a rotor diameter of 12 m with a length of 2.5 m, $p = 42$ and $n = 143$ rpm.

Implicit pole rotor:

The winding is in the slots of the rotor diameter $d = 1.2 - 1.3$ m, the active length of the rotor is not more than 6.5 m. thermal power plants, nuclear power plants (turbo generators). $S=500,000$ kVA in one machine $n=3000$ or 1500 rpm (1 or 2 pairs of poles).

In addition to the excitation winding, there is a damping or soothing winding on the rotor, which is used for starting in synchronous motors. This winding is performed similarly to a squirrel cage type short-circuited winding, only of a much smaller cross-section, since the main volume of the rotor is occupied by the excitation winding. In non-pole rotors, the role of the damper winding is performed by the surfaces of the solid teeth of the rotor and conductive wedges in the grooves.

Direct current can be supplied to the excitation winding of a synchronous machine from a special DC generator mounted on the shaft of the machine and called an exciter, or from the network via a semiconductor rectifier.

Synchronous machine can be operated by generator or motor. A synchronous machine can work as a motor if a three-phase current from the mains is brought to the winding of its stator. In this case, as a result of the interaction of the magnetic fields of the stator and the rotor, the stator field drags the rotor with it. In this case, the rotor rotates in the same direction and at the same speed as the stator field.

The most widespread is the generator mode of operation of synchronous machines, and almost all electricity is generated by synchronous generators. Synchronous motors are used at a power of more than 600 kW and up to 1 kW as micro-motors. Synchronous generators with a voltage of up to 1000 V are used in units for autonomous power supply systems.

Units with these generators can be stationary and mobile. Most units are used with diesel engines, but they can be driven by gas turbines, electric motors and gasoline engines.

A synchronous motor differs from a synchronous generator only by a starting calming winding, which should provide good starting properties of the motor.

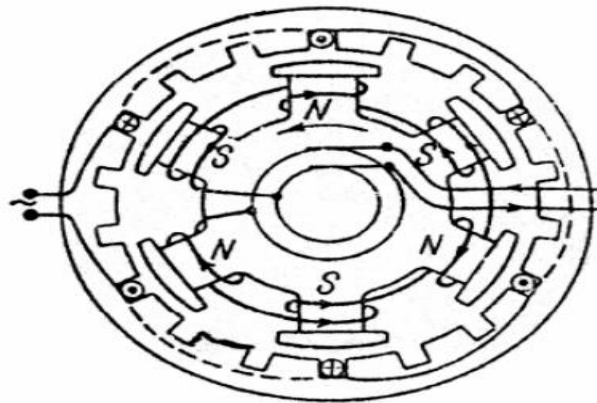


Diagram of a six-pole synchronous generator

Sections of windings of one phase (three windings connected in series) are shown. The windings of the other two phases are placed in the free slots shown in the figure. The phases combine to form a star or triangle.

Generator mode: the engine (turbine) rotates the rotor, the winding of which is supplied with a constant voltage? there is a current that creates a permanent magnetic field. The magnetic field rotates together with the rotor, crosses the stator windings and induces EMF in them of the same modulus and frequency, but shifted by 120° (symmetrical three-phase system).

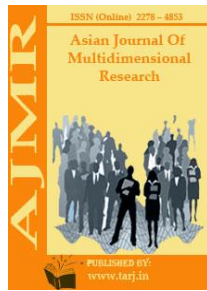
Motor mode: the stator winding is connected to a three-phase network, and the rotor winding to a DC source. As a result of the interaction of the rotating magnetic field of the machine with the direct current of the excitation winding, a torque M_{vr} arises, which causes the rotor to rotate at the speed of the magnetic field.

The mechanical characteristic of a synchronous motor - dependence $n(M)$ - is a horizontal straight line segment.

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PHYSICAL PROPERTIES AT THE CONTACT SEMICONDUCTOR - GAS DISCHARGE PLASMA IN A THIN GAS DISCHARGE CELL

Yuldashev Kh. T*; Akhmedov Sh. S**

*PhD,

**Assistant,

Fergana Polytechnic Institute,
UZBEKISTAN

ABSTRACT

In this work, we investigated the physical properties at the contact of a semiconductor made of single-crystal cadmium telluride with a gas discharge plasma. It is shown that the charge carriers in the plasma, along with the incident infrared radiation, contribute to the enhancement of the photocurrent in the gas-discharge cell. At sufficiently high voltages (more than 2.5 kV), a positive feedback is observed in the gas-discharge cell associated with the action of the plasma on the semiconductor surface.

KEYWORDS: Gas Discharge Cell, Gas Discharge Plasma, Photoelectric Hysteresis, New Photographic Effect, Positive Feedback, Infrared Photography.

INTRODUCTION

A physical phenomenon at the semiconductor - gas discharge plasma contact is a poorly studied object [1-3]. At one time, the physical properties of a thin gas-discharge cell with various semiconductor electrodes were studied [4-6]. However, the complete picture of the physical processes occurring in a thin (40-100 μm) gas-discharge cell has not been fully disclosed. In [7], we theoretically presented the calculations of investigations taking place in a thin gas-discharge cell with two plasma contacts. In this work, we present the experimental results of studies of a thin gas-discharge cell with two plasma contacts with an electrode made of cadmium telluride and these results are compared with theoretical calculations.

The gas-discharge cell consists of monocrystalline cadmium telluride, separated on both sides by thin gas gaps (the thickness of each gap is $d = 65 \text{ mkm}$ and the air pressure is $p = 0.2 \text{ Tor}$) from glass plates with transparent SnO_2 electrodes. The semiconductor wafer was carefully polished on both sides to a state of shine, there were no mechanical scratches or other microscopic defects.

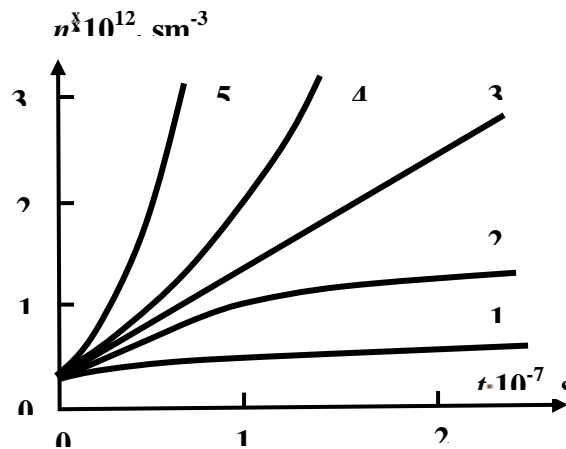


Fig. 1. Kinetics of nonequilibrium electron concentration at different values of the electric field strength E.

Let us consider the simplest case, when the effect of plasma current carriers extends over the entire depth of the semiconductor. With such a representation, the carriers cause uniform volumetric generation, proportional to the photocurrent jC , as well as to the photoelectron flux $I = j / e = \xi \mu n E$, where μ is the carrier mobility in the semiconductor, n is the concentration of photocarriers, E is the electric field strength, ξ is the proportionality coefficient, physical the meaning of which will be explained below. The change in the concentration of nonequilibrium carriers n in time is described by the equation

$$\frac{dn}{dt} = F - n/\tau + \xi \mu n E, \quad (1)$$

where F is the intensity of optical generation, τ is the lifetime of nonequilibrium carriers. Let us now consider the kinetics of flux growth when a rectangular voltage step is turned on. The solution to equation (1) under the initial condition ($t = 0, n = F\tau$) is expressed by the formula

$$n = F / (1/\tau - \xi \mu E) \{1 - \xi \mu E \tau \cdot \exp[-t(1/\tau - \xi \mu E)]\}. \quad (2)$$

For $E < 1 / \xi \mu \tau$, formula (2) has a stationary solution ($t \rightarrow \infty$).

For $E > 1 / \xi \mu \tau$, there is no stationary solution ($n \rightarrow \infty$) and the kinetics of current rise is expressed by the formula

$$n = F / (\xi \mu E - 1/\tau) [\xi \mu E \tau \cdot \exp[\frac{t}{\tau} (\xi \mu E - 1/\tau)], \quad (3)$$

describing an unlimited exponential increase in the concentration of nonequilibrium charge carriers with a time constant decreasing in proportion to the electric field strength.

Figure 1 shows the relaxation curves of the concentration of nonequilibrium carriers for various values of the electric field strength ($1 - E = 5 \cdot 10^3 \text{ V/sm}$; $2 - E = 9 \cdot 10^3 \text{ V/sm}$; $3 - E = 10^4 \text{ V/sm}$; $4 - E = 5 \cdot 10^5 \text{ V/sm}$; $5 - E = 5 \cdot 10^6 \text{ V/sm}$;) and optical generation $F = 10^{14} \text{ sm}^{-3}\text{s}^{-1}$, constructed according to formulas (2) and (3).

The relaxation curves were recorded for CdTe with two plasma contacts in the gas-discharge cell; these curves were shown in Fig. 2 for different values of the applied voltage. The voltage is:

1 - 2 kV; 2 - 2.7 kV; 3 - 2.9 kV; 4 - 3 kV; 5 - 3.05 kV. Let us discuss the theoretical and experimental results.

From theoretical calculations (Fig. 1) it follows that the stationary value of the concentration of nonequilibrium carriers n increases sharply (curve 5) and becomes infinity at $\xi\mu E \rightarrow 1/\tau$. From this condition, one can find out the physical meaning of the coefficient ξ . Let us denote $\lambda = 1/\xi$ - some effective length characteristic of the exciting action of the plasma flow on the semiconductor. Then the condition $\xi\mu E \rightarrow 1/\tau$ can be rewritten as $t = \lambda/\mu E = \tau$ or $\lambda = \mu E\tau$. The greatest effect of the action of plasma excitation occurs when the length of the drift displacement of the carriers in the semiconductor $L_E = \mu E\tau$ becomes equal to λ . In other words, when the time of flight t_{np} by a carrier of characteristic length λ reaches the lifetime $t_{np} = \tau$ with increasing field strength. If we introduce the time of flight t_{np} by the carrier of the entire length of the semiconductor L ($t_{np} = L/\mu E$), then the condition $\xi\mu E \rightarrow 1/\tau$ can be written in the form $\tau = (\lambda/L)t_{np}$. This condition resembles the exclusion condition ($\tau = t_{np}$) with the difference that before t_{np} there is a factor λ/L - the ratio of the characteristic length to the length of the sample. Thus, ξ is undoubtedly related to the efficiency of the plasma action.

The experimental relaxation curves shown (Fig. 2) show that at $E = 1/\xi\mu\tau$, relaxation is expressed by a linear increase in the photocurrent with a slope (curve 3) corresponding to the rate of optical generation in the absence of recombination. In this case, the recombination losses of carriers are exactly compensated by generation from the plasma, and the effective lifetime $1/\tau_{eff} = 1/\tau - \xi\mu E$ becomes infinite. At $E > 1/\xi\mu\tau$, the negative lifetime condition is realized, there is no stationary state, an exponentially similar increase in the photocurrent with time takes place, and a positive feedback is observed in the gas-discharge cell. In the region $E < 1/\xi\mu\tau$, t_{eff} is positive, the photocurrent has a stationary value.

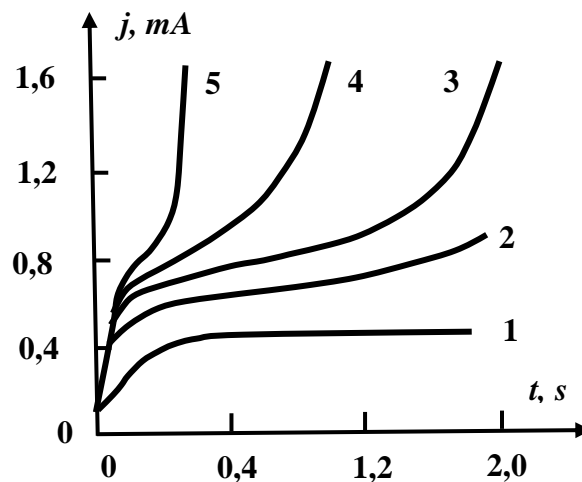


Fig. 1. Kinetics of the photocurrent for different values of the applied voltage across the gas-discharge cell at a constant illumination intensity (white light of the order of $4 \cdot 10^{-3} \text{ Vt} / \text{cm}^2$)

As can be seen from the experimental relaxation curves (Fig. 2), their general character to a certain extent agrees with theoretical calculations (Fig. 1), including in the region of negative

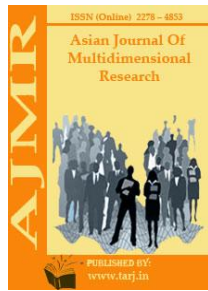
lifetime. For a voltage of 2 kV, a steady state is reached, at high voltages (3.05 kV), a sharp increase in current occurs. However, there are strong temporal discrepancies in the kinetics of the current in comparison with theoretical calculations. This is apparently due to the fact that the simplified calculation did not take into account peculiar phenomena (it was assumed that the effects of plasma create uniform minority carriers throughout the entire depth of the semiconductor), complex interactions of gas discharge plasma carriers with semiconductor surface charges, and recombination processes. Nevertheless, the opinion obtained results gives us a new tool for using a thin gas discharge cell with semiconductor electrodes with two plasma contacts in infrared photography, but also for studying the physical properties of an ultrathin (10-100 mkm thick) gas discharge cell.

An essential scientific achievement of this work is that for the first time a damping additional cell (cascade) is used in a gas-discharge cell to stabilize the gas discharge, and thus, it becomes possible to advance infrared photography to the far spectral region up to 100 mkm and beyond. Since now, at the input stage in a semiconductor photographic ionization chamber [8], it is possible to use low-resistance photographic plates that are sensitive to infrared radiation for the long-wavelength region of the spectrum up to 100 mkm and beyond. The type of photodetector at the entrance of the ultrathin gas-discharge cell does not exert, however much, a strong influence on the stabilization of the photographic process. However, only the temperature range providing photoelectric hysteresis with photographic (new) effect [9] provides high photographic sensitivity and contrast in a semiconductor photographic ionization chamber. Thus, it can be assumed that with such configurations of the arrangement of electrodes can be used sensitive to IR radiation, amorphous, as well as nanocluster photodetectors with quantum wells for infrared photography at the entrance of a thin gas-discharge cell.

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CIRCUITS AND OPERATING PRINCIPLE OF DC CONVERTERS

Akhmedov Sherzod Sodiqjonovich*

*Assistant,
Fergana Polytechnic Institute,
UZBEKISTAN

ABSTRACT

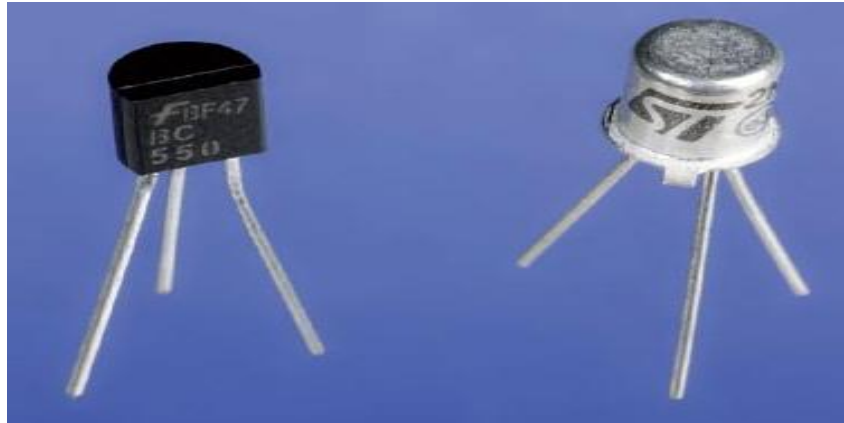
This article says that DC amplifiers do not by themselves amplify current and voltage, but are electronic devices used to control electrical oscillations that start at 0 Hz in a certain frequency range. For the correct operation of the amplifier, the drift voltage must not exceed the specified minimum voltage of the amplified signal applied to its input.

KEYWORDS: DC Converters, Alternating Current, Chart, Reactive Elements, Quarrelsome, Passive And Active Electronic.

INTRODUCTION

DC converters, as the name may seem, do not amplify the current by themselves, that is, they do not generate any additional power. These electronic devices are used to control electrical oscillations in a certain frequency range starting from 0 Hz. But looking at the shape of the signals at the input and output of the DC converter, we can definitely say that there is an amplified input signal at the output, but the energy sources for the input and output signals are individual.

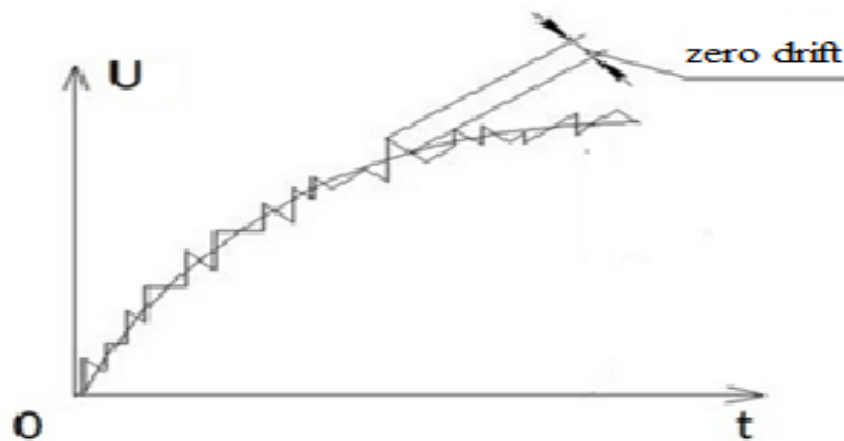
According to the principle of operation, DC converters are divided into direct amplification converters and converters with conversion. DC converters with conversion convert DC current into AC, and then it is amplified and rectified. This is called signal amplification with modulation and demodulation — MDM.



Direct-gain converter circuits do not contain reactive elements, such as inductors and capacitors, whose resistance depends on frequency. Instead, there is a direct galvanic connection of the output (collector or anode) of the converter element of one cascade with the input (base or grid) of the next cascade. For this reason, the direct gain converter is able to transmit (amplify) even direct current. Such schemes are also popular in acoustics.

However, although direct galvanic communication transmits voltage drops and slow current changes very accurately between the cascades, such a solution is associated with instability of the converter, with difficulty in establishing the operating mode of the converter element.

When the voltage of the power sources changes slightly, or the mode of operation of the amplifying elements changes, or their parameters float a little, slow changes in the currents in the circuit are immediately observed, which through galvanically connected circuits enter the input signal and accordingly distort the signal shape at the output. Often these parasitic changes at the output are similar in scope to the operational changes caused by the normal input signal.



Output voltage distortion can be caused by various factors. First of all - internal processes in the elements of the scheme. Unstable voltage of power supplies, unstable parameters of passive and active circuit elements, especially under the influence of temperature fluctuations, etc. They may not be related to the input voltage at all.

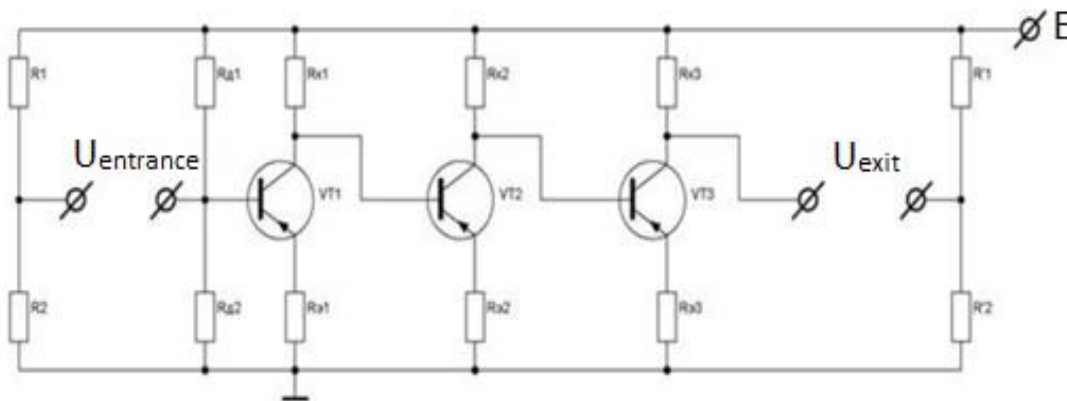
Changes in the output voltage caused by these factors are called the zero drift of the converter. The maximum change in the output voltage in the absence of the input signal of the converter (when the input is closed) for a certain time interval is called absolute drift.

The drift voltage applied to the input is equal to the ratio of the absolute drift to the gain of this converter. This voltage determines the sensitivity of the converter, as it introduces a limitation to the minimally distinguishable input signal.

In order for the converter to work normally, the drift voltage should not be greater than the predetermined minimum voltage of the amplified signal that is applied to its input. If the output drift is of the same order or exceeds the input signal, the distortion will exceed the permissible norm for the converter, and its operating point will be shifted beyond the adequate operating range of the converter characteristics ("zero drift").

To reduce the zero drift, the following techniques are used. Firstly, all voltage and current sources feeding the converter stages are stabilized. Secondly, they use deep negative feedback. Thirdly, temperature drift compensation schemes are used by adding nonlinear elements whose parameters depend on temperature. Fourth, balancing bridge schemes are used. Finally, direct current is converted to alternating current and then the alternating current is amplified and rectified.

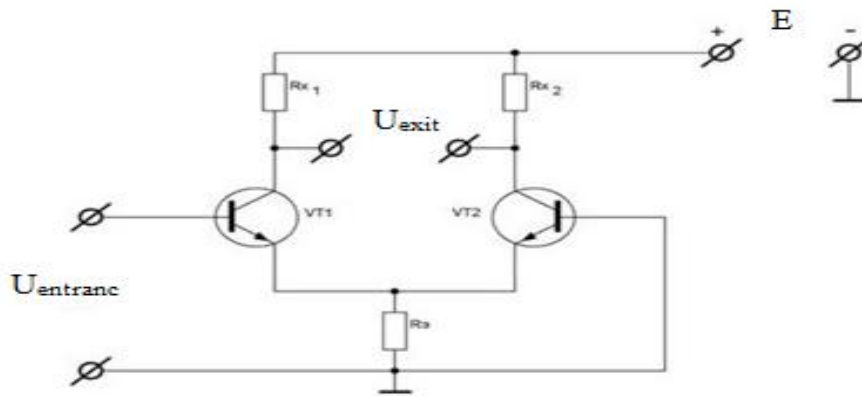
When creating a DC converter circuit, it is very important to coordinate the potentials at the input of the converter, at the interface points of its cascades, as well as at the load output. It is also necessary to ensure the stability of the cascades under various modes and even under conditions of floating circuit parameters.



Direct Gain Scheme

DC converters are single-stroke and two-stroke. Single-stroke direct amplification schemes involve the direct supply of an output signal from one element to the input of the next. The collector voltage of the first element (transistor) is applied to the input of the next transistor together with the output signal from the first element (transistor).

Here the potentials of the collector of the first and the base of the second transistor must be matched, for which the collector voltage of the first transistor is compensated using a resistor. A resistor is also added to the emitter circuit of the second transistor to shift its base-emitter voltage. The potentials on the collectors of the transistors of the following stages should also be high, which is also achieved by using matching resistors.



Parallel Balanced Cascade

In a push-pull parallel balanced cascade, the resistors of the collector circuits and the internal resistances of the transistors form a four-arm bridge, on one of the diagonals of which (between the collector-emitter circuits) a supply voltage is applied, and a load is attached to the other (between the collectors). The signal that needs to be amplified is applied to the bases of two transistors.

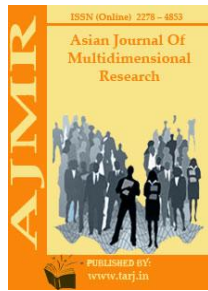
With the equality of collector resistors and completely identical transistors, the potential difference between the collectors, in the absence of an input signal, is zero. If the input signal is not zero, then the collectors will have potential increments equal in modulus, but opposite in sign. On the load between the collectors, an alternating current will appear in the form of a repeating input signal, but of a larger amplitude.

Such cascades are often used as primary cascades of multi-stage converters or as output cascades to obtain symmetrical voltage and current. The advantage of these solutions is that the influence of temperature on both arms equally changes their characteristics and the output voltage does not float.

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MODERN METHODS OF EFFECTIVE MANAGEMENT OF INNOVATION PROCESSES IN THE CONTEXT OF GLOBALIZATION

Makhkamova Mamlakat Abdukadirovna*

*Professor,
 Doctor of Economic Science,
 Head of Department Tashkent State Technical University nam.after I. Karimov,
 UZBEKISTAN

ABSTRACT

The article examines topical issues devoted to modern methods of effective management of innovative processes in the context of globalization. The current development of the world community is characterized by the systemic integration of economies, the international concentration of capital, the globalization of world markets and the economic activity of companies. An important factor in this is the basic intellectualization of scientific and technological progress and production. The economic and technological superiority of the United States, Japan, and the European Union is reflected in their ownership of science-based and high-tech industries, which ensure their political dominance in the world.

KEYWORDS: Superiority, Characterized, Community, Dominance, Intellectualization, Globalization.

INTRODUCTION

The current development of the world community is characterized by the systemic integration of economies, the international concentration of capital, the globalization of world markets and the economic activity of companies. An important factor in this is the basic intellectualization of scientific and technological progress and production. The economic and technological superiority of the United States, Japan, and the European Union is reflected in their ownership of science-based and high-tech industries, which ensure their political dominance in the world.

Realizing the importance and vital importance of the activities of the innovation sector, these countries immediately switched to innovation policy through government support and special government programs. This will allow local companies in the countries to make a high-tech leap and ensure that there is a high gap between all macroeconomic indicators compared to other countries. In the process of globalization, the strategic essence of the state strategy is formed on the basis of innovative activities of

companies, the content of which consists in the production and marketing of new goods, development and introduction of new technologies, creation and application of new knowledge.

An important condition for the effective implementation of scientific and technical policy of the state in the current situation is the concentration of scientific potential, financial and material resources (based on ongoing programs and projects) in the priority areas of effective development of science and technology policy. In general, as a central link, it is necessary to develop the prospects of socio-economic and scientific-technical policy, investment strategy, as well as the strategy of enterprises, banks and other financial institutions at the national and regional levels.

In the current context, it is important to coordinate activities based on the integration of "education - science - production". The basis of such integration is the acquisition of knowledge and its results, including the management of technologies that require new scientific advances at the national, regional and corporate levels. Considering the issues of successful innovative development, it is necessary to take into account not only the understanding of the importance of the mechanism of innovation and its distribution, but also the principles of creating the necessary infrastructure to meet the demand for innovation and the corresponding supply market. The innovation supply market is objectively saturated relative to the demand market. It is well known that innovative new ideas are rarely successfully implemented. While the study of innovation processes may seem realistic, it shows that only one in a hundred, and in some cases one in a thousand, of all ideas lead to commercial success. So, in order for an idea to be effective on the one hand, and feasible on the other, it is necessary to consider many proposals. As a result, innovation is an alliance between the idea of necessity and the idea of technical possibilities. Here is the essence of their aspects - the letter, first of all, the innovative system to detect the process of innovation is reflected in the full synergistic effect.

Despite the fact that the problems of innovation management are interpreted differently in research in the process of globalization of the world economy, the solution of problems related to the integrated integration of innovation management systems remains an important issue in the process of forming the company's goals and strategies.

Today, management is first and foremost management based on the introduction of regular news. An important component of management in its part is innovation - a process of constant renewal in all areas of entrepreneurship. Innovation includes not only technical and technological developments, but also all the changes that lead to the renewal of the enterprise (new goods, new services, new conveniences for customers, prices, etc.).

The innovative process is a balanced improvement of work in all areas of the enterprise, based on the control of profitability at each link. All innovations are made on the basis of a comprehensive systematic, comprehensive analysis of the enterprise, it is important to compare the results obtained not with the results achieved, but with the capacity (volume) of the market at the time. The purpose of such an analysis is to determine to what extent the enterprise has used the market opportunities in each period.

The news market can be interpreted (defined) as a system of economic forms and mechanisms related to the acquisition of knowledge, the functioning of innovative communication, the conditions of sale of scientific goods. The market mechanism includes the relationship (communication) between sellers and buyers of news, valuation, credit and other value categories. It also includes the supply and demand for news, the supply evaluation system and the achievement of agreed prices, money supply (investment), the price of innovation, and so on. Innovative communication services and innovative process

management, which allows the movement of goods news market participants target - vantage of a central mechanism.

The market is often seen as a technical and economic category that acts as a driver of goods from producer to consumer. Such a simple description of innovative communication does not accurately reflect the nature of the news market, as it by its nature performs the following important functions:

- First, it serves to guide scientific and technical policy;
- Second, it has an innovative impact on the investment process;
- Third, the need to develop innovative communications in order to accelerate the implementation of scientific and technological potential in government agencies;
- Fourth, to establish scientific and technical news needed them (indicators);
- Fifth, it has a direct impact on innovation creation by increasing the demand for innovative goods.

To accomplish the above tasks, the news market must be able to create new products and have an economic impact on its creators. The essence of the interaction is characterized by the fact that the researcher and the manufacturer develop a new product and technology, depending on the decrease or increase of interest in this or that innovation. Benefits are related to the income derived from the application of the result and its distribution. If initially the income in the field of innovation is completely limited, not related to the implementation of innovations in production and there is no news market, the market impact, flow of goods and their economic performance will depend on the possibility of change based on investment conditions, thereby changing the interests of market participants .

The peculiarities of the market mechanism are reflected in the formation of supply and demand for investment, in the description of the market .

At present, the international experience in the field of innovation, Moslem - nensing of the Republic of Uzbekistan are being implemented in various sectors of the economy and the country's development potential systemic - Some of the guarantee.

At the same time, scientists of the republic are developing the scientific basis of innovation management, which is a new field and introducing it into various sectors, taking into account the characteristics of industry, production and our national economy. This development management system, improve the quality of mining, production and market new products enrich the service with quality products.

World experience shows that only in countries with a comprehensive innovation system, innovation processes are carried out effectively, technologies and other popular products are commercialized. The participation of the state in this process, the real sector of the economy and the support of innovative activities of leading companies are important. After all, science is the basis of this integration mechanism, which ensures the technological development of the state and the socio-economic development of society.

From the first years of independence in Uzbekistan, special attention was paid to creating a solid foundation for the further development of science, leading scientific schools of the country. The decrees and resolutions adopted by our state have become a special stimulus for the consistent implementation of state policy in the field of science and technology and innovation in line with new historical realities.

Decree of the President of the Republic of Uzbekistan dated July 8, 1992 "On state support of science and development of innovation" and the Cabinet of Ministers of the Republic of Uzbekistan dated July 21, 1992 "On measures to support the development of science and innovation" The resolution is the first major document in the field of science and innovation development. In accordance with the Resolution of the President of the Republic of Uzbekistan dated August 7, 2006 "On measures to improve the coordination and management of science and technology development", reforms aimed at state regulation of management and funding of science in Uzbekistan, focusing its efforts on priority areas were continued.

The Resolution of the President of the Republic of Uzbekistan dated July 15, 2008 " On additional measures to encourage the introduction of innovative projects and technologies in production " has played an important role in this regard. This decision serves to create a system of targeted funding of research projects in the country and the provision of scientific laboratories with modern equipment, modernization of enterprises and the establishment of a fund of new technologies, as well as the Republican Innovation Fairs. In order to create favorable conditions for the training of young professionals in our country, the necessary measures have been taken to further strengthen the material and technical base of scientific institutions.

The Ministry of Innovation Development of the Republic of Uzbekistan was established in accordance with the Decree of the President of the Republic of Uzbekistan dated November 29, 2017 No PF-5264 "On the establishment of the Ministry of Innovation Development of the Republic of Uzbekistan".

The Fund for Support of Innovative Development and Innovative Ideas was established by the Resolution of the President of the Republic of Uzbekistan dated November 30, 2017 No PP-3416 "On the organization of the Ministry of Innovation Development of the Republic of Uzbekistan."

The Resolution of the President of the Republic of Uzbekistan dated May 7, 2018 No PP-3698 "On additional measures to improve the mechanisms of innovation in industries and sectors of the economy" also opened up opportunities for effective application of innovation processes in industries and sectors of the economy.

Our analysis shows that despite the scale of work on further improving the efficiency of science development in the country, the introduction of innovative technologies and developments in relevant sectors and industries of the economy, now fully mobilizes all material, technical, scientific and intellectual resources. the existing scientific and technical potential is not fully used.

This, in turn, requires further improvement of specific mechanisms to ensure high innovative activity between producers and consumers of scientific products, effectively using the existing scientific and technological potential, and fully adapts these mechanisms to the pace of economic and socio-political reforms in the country.

In our opinion, the main problems related to further increasing the efficiency of science development in the country, strengthening innovative development and technology transfer are:

First, today, almost all large industrial enterprises are only interested in innovative developments that are ready for implementation. However, little attention is paid to most developments, which require testing of innovative developments in the industrial environment, the creation of industrial-experimental devices, ie additional practical research for implementation.

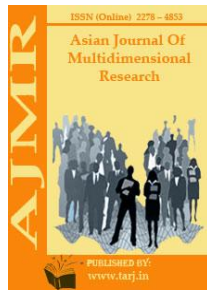
Second, enterprises in the relevant sectors of the economy spend little on preparing for the introduction of innovative developments on an industrial scale, and do not allocate at all to support fundamental research, which is the basis for the development of innovative ideas and new technologies.

The system of measures to stimulate innovation activity should include:

- Maintenance and development of the system of basic institutions and scientific communities (environment) necessary for the accumulation of knowledge;
- Reforming the economic mechanism to stimulate innovation;
- Selection and support of directions in the field of science;
- Technology creation and commercialization;
- Development of innovative infrastructure;
- Development of proposals to improve the credit system;
- Modernization of industry aimed at innovative development;
- Development of leasing of scientific equipment, etc.

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ORGANIZATIONAL AND ECONOMIC MECHANISM OF SUSTAINABLE DEVELOPMENT OF ENERGY ENTERPRISES

Allaeva Gulchekhra Zhalgasovna*

*PhD, Docent of the Department
"Economics of Industry and Management",
Tashkent State Technical University, UZBEKISTAN
Email id: allaeva74@mail.ru

ABSTRACT

The article discusses the main elements of sustainable development of the fuel and energy complex of the Republic of Uzbekistan. Methods and ways of improving the organizational and economic mechanism of sustainable energy development are proposed. Global gas production in 2019 increased by 3.8%. Among the 15 leading gas producing countries, which account for more than 85% of world production, growth was noted in Russia, Norway, Saudi Arabia and Turkmenistan. At the same time, according to the conclusions of the International Energy Agency, gas consumption will more than double at the current level.

KEYWORDS: Sustainable Development, Digital Economy, Nuclear Energy, Renewable Energy Sources, Energy Saving, Energy Efficiency, Fuel And Energy Complex.

INTRODUCTION

Today, the sustainable development of enterprises of the fuel and energy complex is the core of development of modern society. Indicators of the energy sectors impact the level of well-being of society, the activities of other sectors of the economy, and position in the world community. According to the IEA forecasts, in the next thirty years worldwide demand for all types of energy resources will increase significantly. Global gas production in 2019 increased by 3.8%. Among the 15 leading gas producing countries, which account for more than 85% of world production, growth was noted in Russia, Norway, Saudi Arabia and Turkmenistan. At the same time, according to the conclusions of the International Energy Agency, gas consumption will more than double at the current level.

In recent years, our country has paid special attention to the sustainable development of the fuel and energy complex in the world market. Action strategies for five priority areas of the country's development in 2017–2021, priority tasks for “further modernization and diversification of the industry by transferring it to a new level, mastering the production of fundamentally new

types of products and technologies, ... reducing the energy and resource intensity of the economy, widespread introduction in the production of energy-saving technologies, the use of renewable energy sources, increasing labor productivity in sectors of the economy;”¹. Therefore, one of the main directions for improving enterprises of the fuel and energy complex in modern conditions is to improve the mechanisms for ensuring their sustainable development, contributing to the rational distribution of their resource potential, increasing the level of innovative activity and increasing the competitiveness of industry products.

LITERATURE REVIEW

In the world scientific community in order to improve the methodology for assessing the organizational and economic mechanism of sustainable development of enterprises of the fuel and energy complex research is being carried out in the following priority areas: integration of the national fuel and energy system into the world market in the context of globalization; influence of effective integration of innovation processes and technologies on sustainable development of fuel and energy complex enterprises; the formation of tools for ensuring sustainable development of enterprises in the context of the development of the digital economy; attention is paid to ensuring the quality of the innovation environment and the efficiency of using the carriers of the innovative potential of enterprises in the fuel and energy complex, improving the organizational and economic mechanism for the sustainable development of enterprises in the fuel and energy complex.

The concept of sustainable development of enterprises adopted at the UN conference on environmental development in Rio de Janeiro (1992) has not lost its relevance to this day. This concept is a model for the development of civilization in which a balanced interaction of nature, society and economy is carried out. The main economic component of the concept of sustainable development is the optimal use of hydrocarbon energy resources and the use of nature-energy and material-saving technologies.

The classic definition of "sustainable development" is proposed by the International Commission on Environment and Development. This interpretation reveals the essence of the analyzed definition: it takes into account resource constraints, the interaction of the biosphere and the noosphere.

However, ensuring sustainable functioning of the industry is difficult to predict due to the uncertainty of external and internal influences. The danger of instability is always present in an uncertain economic environment. Sustainable development has many definitions, concepts and interpretations. This is due to the fact that in relation to any economic system, you can choose the definition of sustainable development based on the goals, characteristics, properties and characteristics of the development of the system. Each author puts his own meaning into understanding, highlighting certain aspects.

RESEARCH METHODOLOGY

The article used various types of analyzes: heuristic and expert assessment, statistical grouping, correlation, economic and statistical, graphical analysis and other methods.

ANALYSIS AND RESULTS

In our opinion, ensuring the sustainability of enterprises in the fuel and energy complex should be considered as one of the important areas of increasing the competitiveness of the national

economy, and studied as a set of objective prerequisites for the effective development of the strategic sector of the national economy.

Based on the results of various studies in foreign and domestic scientific literature, the main approaches to the development and implementation of a strategy for the sustainable development of industrial enterprises, according to the author, are directed logical changes, the result of which is the effective sustainable development of the state's energy sector, which consists of the sustainable development of industries and enterprises. energy at the regional level, taking into account the backbone role of the fuel and energy complex of the republic. It has been determined that stability is retained by such systems that do not change their characteristics and properties under the action of external and internal disturbances. The process of sustainable development of the fuel and energy complex of the Republic of Uzbekistan should be associated with three "D": digitalization, decentralization, decarbonization which means the transition to digital energy, distributed energy and reduction of carbon dioxide emissions. The author proposes to supplement this list with one more term - intellectualization, which would reflect the real state and development prospects of the energy systems of the future - a "smart", integrated energy system.

Energy Strategy of Uzbekistan until 2030 involves the creation of a sustainable system for ensuring national energy security. The process of implementing the Strategy for Fuel and Energy Supply of Uzbekistan for 2020-2030 and a comprehensive program for digitalization of the electric power industry for 2019-2021 is underway, which will be aimed at automating enterprise resource planning (ERP) and supervisory control and data acquisition (SCADA) processes.

One of the main priority issues in the development of the electric power industry in Uzbekistan is the development of generating capacities in such areas as thermal power stations (TPS), nuclear energy, renewable energy sources (RES) with the attraction of foreign direct investment.

The development of nuclear energy for our republic is a new innovative direction, where the priorities in this area are:

Intellectualization of the development of nuclear energy, taking into account modern world trends;

The greening of nuclear energy, where careful handling and preservation of natural resources is considered a priority;

Digitalization of nuclear energy is the most important component of the future energy sector and, accordingly, the state economy. Digital energetics is an energetics in which the relationship between producers and consumers of electricity has changed dramatically, as new, affordable technologies have appeared.

Studies have shown that in the digital economy, an important strategic direction for increasing the level of sustainability of enterprises is the automation and digitalization of production processes. The result of this is the national project "Implementation of an automated electricity metering and control system (AEMCS)", which has accelerated in recent years.

The author has improved a systematic approach to ensuring sustainable development, which involves considering the fuel and energy complex as an open system of an economic model (Figure 1).

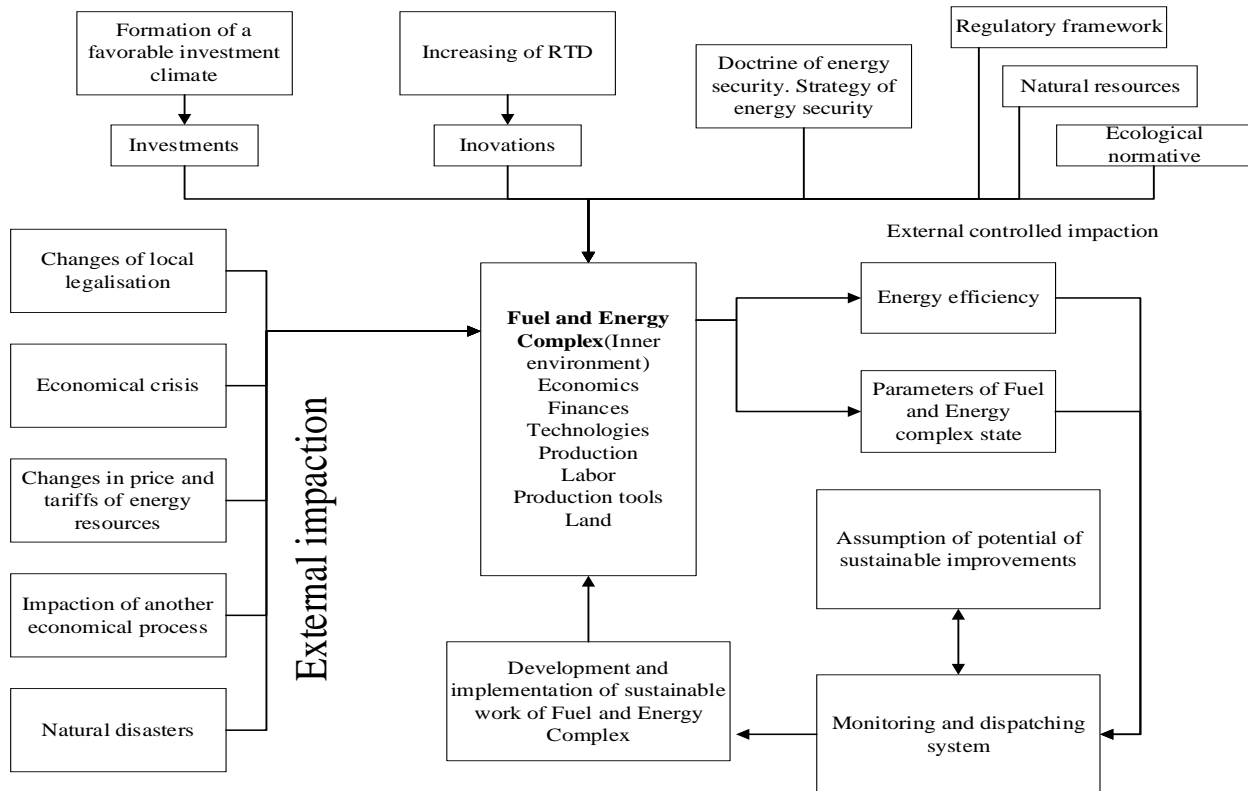


Figure 1. The structure of the economic model of sustainable development of the fuel and energy complex²

We believe that the state of the fuel and energy complex depends on the stability of each element of the system. The essence of the functioning of the fuel and energy complex is reduced to the movement of information, energy, materials associated with the processing of input values (information, financial resources, material resources, ICT) and obtaining the desired results (energy resources, services, profit, information).

To analyze the functioning of the fuel and energy complex, the author singled out in its composition subsystems responsible for a certain type of activity (energy consumption, production of electricity and heat energy, energy supply). If the system is in a stable state, then its reaction to destabilizing influences can be as follows: adaptation; anticipation of possible changes; repayment of negative impacts. If the system is unstable, then the result of destabilizing influences can be stagnation, degradation, regression - downward development, the collapse of the system.

Our studies have shown that the sustainable development of the fuel and energy complex is the transition of a system from one state to another, characterized by new properties and characteristics of the system, corresponding to the trends of the new time. Stability lies in the fact that after the transition from one state to another, the parameters of the state of the system, at the same time, do not deteriorate, in other words stay in the boundaries of stability. For an economic system, the main condition for sustainability is the provision of resources at the right time in the required amount and on acceptable terms. Resources can be exemplified as material flows, technologies, human resources, financial resources.

It was revealed that the fuel and energy complex have orbital stability that is the ability of uninterrupted and reliable functioning with any changes in the internal and external environment, maintaining, and improving its characteristics during the transition to a new level of development, provided that the state parameters do not go beyond the permissible limits. Orbital stability is characterized by the fact that it is selected - a neighborhood beyond which the parameters of the system cannot go for any undesirable deviation of the state parameters it is possible to return the process to the boundaries of stable operation with the help of a control action. If the values of the indicators characterizing the criteria go beyond the boundary of sustainability, then the economic system is threatened with destruction.

Orbital stability allows the fuel and energy complex to maintain a balance of state parameters when moving to a new level of development. The author defines the main conceptual elements of the orbital sustainable development of the fuel and energy complex (Figure 2). The institutional component, which is the technological basis for making managerial decisions in the framework of sustainable development of the fuel and energy complex, creates economic, organizational, and legal conditions for development ensuring the formation of a favorable economic environment which in turn provides an inflow of investments necessary for modernization and transition to the path of innovative development.

Clarifying the trilemma of improving energy security based on sustainable development of the fuel and energy complex we believe that firstly the fuel and energy complex is characterized by orbital stability - the ability of the system to function ensuring uninterrupted and reliable production, and supply of fuel and energy resources to consumers, and development under changing internal and external conditions while maintaining and improving their characteristics during the transition to a new level of development, provided that the state parameters do not go beyond the permissible limits. Development is the process of improving technology, accounting, control, business processes, and movement of material flows.

Secondly, energy security is the ability to provide uninterrupted and reliable supply of fuel and energy resources to consumers while leveling the emerging external and internal threats that destabilize the functioning of the fuel and energy complex.

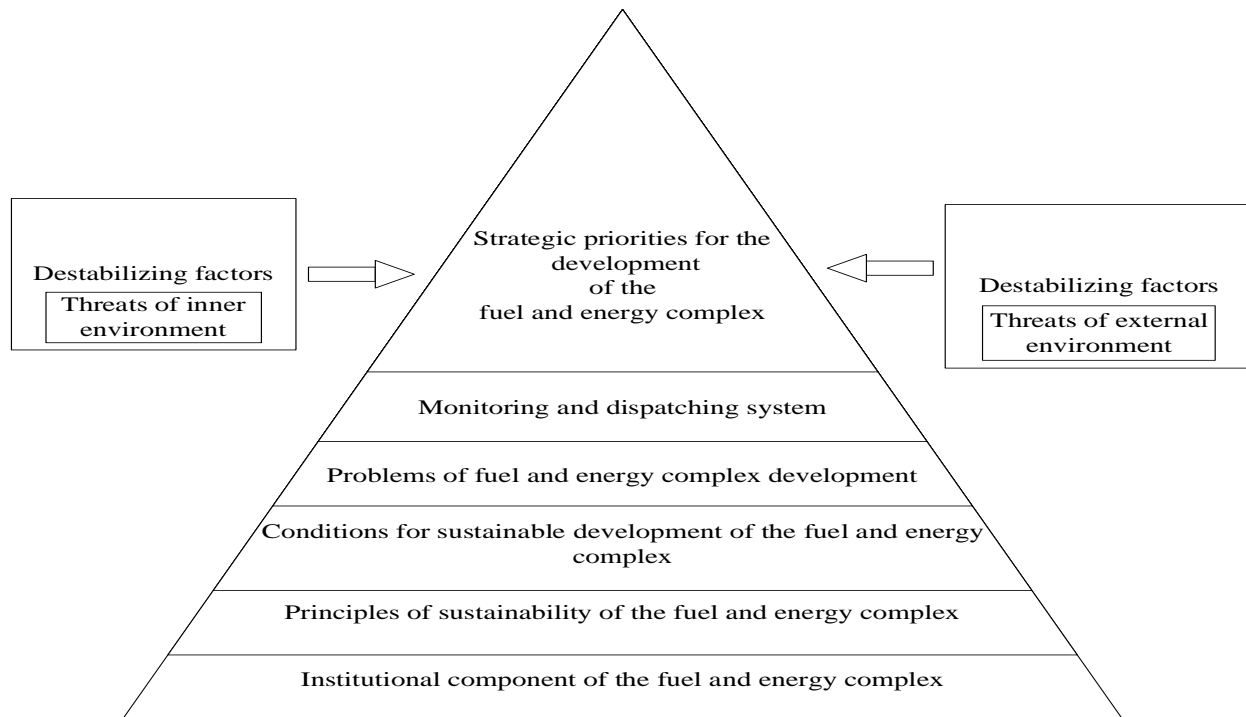


Figure 2. Elements of the concept of orbital sustainable development of the fuel and energy complex³

Thirdly, the ecological component is the development of green energy based on rational use of natural resources, preserving the natural environment, and the production of energy from renewable sources.

Summarizing these three concepts, we can say that sustainable development is the process of ensuring energy, economic and environmental security, subject to effective environmental management. To overcome development imbalances and establish proportions, the structure of the system must be flexible and adaptable, and have the potential for improvement.

Integration and interdependence of elements and the ability to regulate are important for the integrity of the system.

To assess the level of sustainable development of an enterprise, the following groups of indicators are taken in accordance with their role in the production process: market, production, social, financial and economic (Table 3). The information base is the financial statements of the organization, forms of state statistical reporting, data of enterprises that are not included in it.

TABLE 3 MAIN ECONOMIC INDICATORS OF SUSTAINABLE DEVELOPMENT OF THE ENTERPRISE AND CRITERIA FOR THEIR ASSESSMENT

Indicators	Criteria	Unit
Market	Market share of product sales	%
	Turnover in a specific market	thousand sum /year
	Share of cash in turnover	%
	Commercial products in actual and comparable prices	thousands sum

Production	Volume growth index manufactured products	index
	Products sold	thousands sum
	Production costs	thousands sum
	Cost growth index	index
	Share of variable costs in the cost of production	specific gravity
	Production per worker	thousands sum./ man/year
	Percentage of orders completed on time	%
Social	Number of employees by category	man
	The ratio of wages to subsistence minimum	coefficient
	Average monthly wage ratio employees to the average monthly salary in the country	coefficient
Financial and economic	Working capital	thousands sum
	Own working capital	thousands sum
	Net profit	thousands sum/ year
	Net profitability	%
	Current liquidity	coefficient
	Fixed-asset turnover	c./c.

The process of creating an information and analytical base for the analysis and construction of derived indicators for assessing the sustainable development of an enterprise is as follows: a) input of initial information on the enterprise; b) calculation of financial and economic indicators characterizing the position of the enterprise; c) analytical comparison of indicators; d) construction of a weighted index of the integral assessment of the sustainable development of the enterprise.

Ensuring sustainable economic development of the enterprise is one of the main tasks facing managers at all levels of management. The implementation of the principle of financial stabilization in the long term involves the development, selection and assessment of a financial strategy based on ensuring the financial stability and financial balance of the enterprise. In recent years a traditional method has been developed in assessing financial stability which is based on calculations of indicators calculated from the balance sheet data. However, the use of this technique which is quite simple to use is possible only for preliminary acquaintance with the financial condition of the enterprise.

The analysis made it possible to develop the following scientifically grounded proposals for a strategy for sustainable effective development and reform of the fuel and energy complex of the republic:

1. Intensification and intellectualization of energy efficiency and energy saving (reserve - 30-40% of energy savings). This will require accelerated modernization of fixed assets,

diversification of energy sources, pursuing a tough energy-saving policy, assessing the real costs of supplying the country, etc. It is necessary to introduce energy-efficient innovative technologies in the sector of residential, commercial and administrative buildings (“smart home”, “smart city”), as well as network technologies (active-adaptive networks, energy Internet, information and analytical systems, etc.), that is.

2. Development of the national nuclear infrastructure, including the formation of a regulatory and legal framework, participation of the Republic of Uzbekistan in the global nuclear safety regime, ensuring the activities of the operating organization of a nuclear power plant, creating a regulatory framework for nuclear energy, ensuring transparency and openness to the public of the nuclear energy program, providing qualified personnel...

3. Development of energy resources of wind and sun. In most countries of the world, extensive work is underway to diversify the energy mix, including by expanding the use of non-carbon renewable energy sources. According to the estimates of domestic and foreign experts, the real technical potential of solar and wind energy in Uzbekistan is at least 10 million kW of power in each direction.

4. Development of an innovative system of the fuel and energy complex based on stimulating demand for domestic technological developments, restructuring the costs of energy companies for research and development, development of network forms of organizing and promoting innovation and technology transfer, including expanded integration into international networks and others;

5. Development of interaction of energy companies with educational organizations and research centers; expansion of the practice of co-financing by the state and business entities of long-term applied and innovative research and scientific and technological development programs. These problems are of particular relevance as part of the implementation of the measures provided for in the Resolution of the President of the Republic of Uzbekistan Shavkat Miromonovich Mirziyoyev "On measures to further expand the participation of industries and sectors of the economy in improving the quality of training specialists with higher education" (July 27, 2017);

6. Creation and development of an information and analytical system for monitoring and forecasting the development of the fuel and energy complex of the Republic of Uzbekistan, which will facilitate the formation of high-quality statistical and analytical reports, as well as fuel and energy balances for the future;

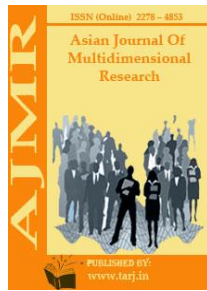
7. Improvement and development of the activities of the branch fund for innovative technologies in the fuel and energy complex with the participation of research institutes and educational institutions, private investors and others for the implementation of priority technologies in order to modernize the industry. In order to increase the efficiency of investment projects, active expansion of the scope of project management and the development of venture financing, which ensures continuous financing of promising technological solutions at all stages of the innovation cycle;

8. Implementation and improvement of modern organizational models of educational institutions, including a model of innovative scientific, educational and industrial clusters, a model of interaction between educational institutions within consortia (including with the participation of international universities). Implementation of initiatives for the formation of engineering education (with the updating of educational programs taking into account the needs of

production), aimed at deepening students' practical knowledge and technical foundations of the profession, as well as at developing skills in the creation and operation of innovative technologies.

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FACULTY DEVELOPMENT IS INTEGRAL TO ENGINEERING EDUCATION: A STUDY

Mrs. Sarojini Devi Ummareddy*; Dr. S.S. Prasada Rao**

*Research Scholar,
GITAM Institute of Management,
Visakhapatnam, INDIA

**Professor,
Ph.D.
GITAM University,
Visakhapatnam, INDIA

ABSTRACT

Faculty is the cornerstone of the education system. Their adequate size, and their continuing development produce the expected performance on key success parameters like Admissions, Pass Percentage, Placements, and Salary Packages. But, the poor quality of engineering graduates coming out of the educational institutions these days is a pointer to the serious issues with faculty size and their development. The stewards of the institutions are still not fully convinced about the faculty size and their continuing development, as attested by the poor quality of the graduates coming out of the engineering colleges. This research article attempted to establish a link between faculty-related initiatives, i.e., faculty size, their higher qualifications, their continuing development, and their individual learning efforts, and the institutional and student success parameters.

Findings: Total Faculty Size is indispensable for all success parameters, i.e., Admissions, Placements, First Division Pass and Salary Package. Actual Working Faculty is a consideration for Admissions only, but not for Placements, First Division Pass and Salary Packages. Same is the case with Doctorate Faculty. It has some relation with Admissions only but not with other success parameters. The Number of Articles published and Presented has some relation with Admissions but not at all with other parameters. Same is the case with FDPs attended by faculty, which has some relation with Admissions but not with other parameters.

Originality: The link between faculty development initiatives and the institution's success parameters was not properly investigated in this part of the world; this absence of literature presumably holds back the investments in the faculty development.

Managerial Implications: The findings of this study help the institution's stewards to sit back and reflect on the criticality of the faculty-related issues to their success, and build their conviction to pay adequate attention to them.

KEYWORDS: Faculty, Engineering Education, Faculty Development Programs, Faculty Training, Faculty Size, and Faculty Publications.

INTRODUCTION

The American Commission on Higher Education opines that the quality of a country depends on the quality of its citizens; the quality of the citizens, in turn, depends on the quality of its education; the quality of its education depends, to a larger extent, on the single factor, i.e. quality and competency of teachers (Gaikwad, 2015). According to Martin Daumiller, Robert Stupnisky, and Stefan Janke (2020), the quality of higher education (i.e., university, post-secondary level /tertiary level) and the ability and performance of faculty are critical to society. Effective instruction at higher education institutions is mostly the principal cause of the quality of student engagement, and differences in their learning outcomes. (BrckaLorenz, Ribera, Kinzie, & Cole, 2012).

As regards faculty in engineering colleges, Shrivastav (2003), Kumar (2008), Nargunde (2009) and Kalva (2010) concluded that in the private technical educational institutions, qualified faculty is short, and more so with PhD faculty; further, most teachers are fresh graduates. These teachers are not paid according to regulator's norms; they are employed on contract basis for a short time.

Chaturvedi (2003), Kalpana (2012) and Devi (2013), based on their studies, suggested that working conditions of the faculty should be improved and provided with necessary resources like computers, internet, decent rooms for sitting and reading, and also fresh and hygienic work areas and restrooms; regulatory body should keep a check on the availability of such essential requirements.

Faculty Development

Student's learning quality is determined largely by the capability and competency of the faculty members. (Heng, 2014; Rany, Souriyavongsa, Md Zain, & Jamil, 2013). According to Khedkar (2012), for the student to achieve effective learning, faculty development is highly essential. Dearth of development opportunities and inadequate attention to the overall growth of the teachers is negatively impacting the delivery of quality knowledge and skills to students, and thus reducing their rounded development and employability. The faculty is also sometimes found to be deficient in communication and teaching skills. It should also be noted that faculty-industry collaboration has much to be desired.

The empowered faculty, as a result of training and development, can get their multi-skilled students placed easily, since the competent faculty make the student industry – ready with requisite multiple skills, and the industry expectedly gets from the campus an employee with his 21st Century skill set (Latha, 2020).

According to Morgan (1998), The capacity of faculty members is usually defined by the academic qualifications of the faculty including the deepening of knowledge and improving their skills that faculty members have to display in performing their assigned functions, mainly,

teaching and research. Wheeler (2004) observes that the continued existence of universities depends on their ability to retain talented and innovative academic staff through job security, fair rewards, and job satisfaction; faculty should never be treated with disdain as typically done.

Faculty and Placements

The study of Garg (2016) shows that competent faculty got the highest rank among the factors that the students check before taking admissions; he found that skill development which is the effort of the faculty has a strong positive relation with placements. He extracted seven factors that help in placement; top five of them are – (1) knowledge and competency building environment, (2) human resources, (3) infrastructure, (4) personality building activities, and (5) project and practical training. Four of the five aforesaid factors squarely relate to faculty.

Aithal and Aithal (2019), by their predictive analysis, identified six types of assets that are essential for building a world-class university: (1) physical infrastructure, (2) digital infrastructure, (3) student training and development ecosystem, (4) intellectual property infrastructure, (5) emotional infrastructure, and (6) networked infrastructure. They estimated that physical, digital and innovative training infrastructure are the necessary conditions while intellectual, emotional, and networked infrastructures are sufficient conditions. The emphasis unequivocally is on faculty, infrastructure and training.

Theoretical Foundations

Parasuraman, Zeithaml, and Berry proposed a service quality assessment model, called SERVQUAL, which is anchored on five dimensions of service. They are (1) Tangibles, (2) Reliability, (3) Responsiveness, (4) Assurance, and (5) Empathy; reliability refers to the provider's ability to deliver the promised service reliably and correctly; responsiveness means willingness to help customers (students) and provide prompt service to them on demand or proactively; assurance refers to the knowledge, and politeness and conscientiousness of the staff and their ability to radiate trust and confidence; empathy refers to caring and personalized attention to the students. Reliability and responsiveness flow from infrastructure, and faculty and non-teaching staff. Assurance and empathy come from well trained and well-motivated faculty and other staff. Essentially, the model talks about high quality staff and best infrastructure.

Grönroos proposed a model of service which is premised on three dimensions: technical, functional and image; These dimensions flow from best physical infrastructure and high-quality faculty and other staff.

Haywood-Farmer (1988) proposed a service quality model comprising three basic attributes, namely, (1) physical facilities, processes and procedures, (2) conviviality of staff and pleasant people behaviour, and (3) professional judgment. People behaviour and conviviality include cheerful, joyful and friendly staff that focus on, timeliness, speed, communication, warmth, friendliness, decent tone of voice, dress, neatness, politeness, anticipation, handling complaints, and solving problems. Professional judgement includes staff's quick analysis and understanding of the needs of the customer, advice, guidance, innovation, honesty, confidentiality, discretion, knowledge and skills. The first dimension refers to physical infrastructure and staffs of educational institution while the second and third dimensions the competent and well-trained staff.

Brady and Cronin (2001) developed a model for evaluating service quality. The model posits that service quality is determined by (1) interaction quality that was shaped by attitude, behaviour,

and expertise; (2) physical service environment quality comprised of ambient conditions, design, and social factors; and (3) outcome quality that was formed by waiting time, tangibles, and multiple choices. The first dimension refers to the quality of teaching and non-teaching staff in the institution.

Philip and Hazlett (1997) proposed a hierarchical structure model called P-C-P for assessing service quality in service institutions. The model was based on (1) pivotal, (2) core, (3) and peripheral attributes. Peripheral Attributes include extras and frills added to bring delight to the customers, Core Attributes include people, process and organizational structure; pivotal attributes include the end product of the service. Pivotal attributes which were the most important attributes that determine service quality are considered as end product or output, whereas core and peripheral attributes are viewed as inputs and processes. These attributes vary in their importance and hence are in a hierarchy of importance in that pivotal attribute are in the top rung, core in the middle, and peripheral at the bottom in the hierarchy. For higher education institutions, pivotal and core dimensions refer to training of faculty and students, and physical infrastructure.

While it is generally believed that faculty is the foundation of the educational institutions, their shortage is reported from every part of India, regardless of whether it is a premier institution and low-rung institution. Secondly but most importantly, competent faculty is always in scarcity. The negative effects of the faculty shortage and less competent faculty include: (1) Students' dissatisfaction with the institutions and the resulting low reputation of the institutions, (2) suboptimal learning and low skills of the students, (3) unfinished course work, (4) poor performances in examinations, (5) low placement probability, (6) poor occupancy ratio, and (7) underutilized learning resources, and (8) idle students. What with non-availability of faculty, and unwillingness of the promoters to spend on faculty, faculty shortage has become both commonplace and ubiquitous. While non-availability of faculty in the world cannot be intervened and remedied much, unwillingness to appoint or develop faculty on the part of the promoters is something that can and must be addressed. Importantly, promoters' conviction about the need for faculty appointment and their development is the principal stumbling block. Their conviction about going with faculty shortage is apparently stronger than their conviction about the need for addressing faculty shortage and development. Lack of conviction is rooted in the unclear thinking about the effects of faculty shortage and low-quality faculty on the overall success of the institution.

This research attempts to establish the connection between faculty availability and their competence, and institutional success outcomes, i.e., Admissions, Placements, Pass Percentage, and Salary packages for the students placed in the campus.

To proceed forward in the quest for detecting the connection between faculty issues and institutional success outcomes, following dependent and independent variables are identified.

Dependent Variables are: (1) Occupancy Ratio (Admissions), (2) Placements, (3) 1st Division Pass, and (4) Salary Packages. Independent Variables are: (a) Faculty Size, (2) Actual Working Faculty, (3) Doctorate Faculty Percentage, (4) Research Articles Published /Presented, and (5) Faculty Development Program Attended

Hypotheses

(1) Faculty Size does not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

(2) Actual Working Faculty as against the required faculty does not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

(3) Doctorate Faculty Percentage does not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

(4) Research Articles Published and Presented by the faculty do not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

(5) Faculty Development Programs attended by the faculty do not influence the Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

This research collected data from 70 engineering colleges in Telangana state of India to be analyzed on SPSS v 25. The data absolute figures lacks comparability since the performance is dependent on the size of the institution and so for ensuring comparability, quotients were calculated and fed as data into excel for processing. Quotient is a product of absolute figures divided by the number of persons responsible for producing the said figures; for example, placement figure is divided by the intake permitted and the resulting figure only is fed as data. For analysis, correlation analysis was performed.

Hypothesis 1

Total Faculty Size does not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

To check the influence of Total Size of the Faculty on the success outcomes of the engineering education institutions, correlation coefficients were calculated and shown below in the Table # 1

TABLE # 1 TOTAL FACULTY SIZE AND SUCCESS PARAMETERS

		Percentage of Admissions in 2020 as against Intake Permitted	First Division Quotient	Placements Quotient	Salary Quotient
Total Size of the Faculty	Pearson Correlation	.536**	.405**	.322**	.417**
	Sig. (2-tailed)	.000	.001	.007	.000

The correlation of the Total Size of the Faculty with Admissions is $r(70) = 0.536$, $p = 0.000$; the correlation is moderate and indicates a sufficient link between Total Faculty Size and Admissions. Institutions, for their overall growth and survival, should pay enough attention to faculty size, or it will result in decline of occupancy ratio. Undoubtedly, students get to know about the faculty size and their availability in a candidate college through their friends' circles, and assess the capability of the college.

Further, the correlation of the Total Faculty Size with Placements is $r(70) = 0.322$, $p = 0.007$; correlation coefficient is notably on the upper side of weak correlation, which implies that targeted Placements require availability of robust faculty size. Unfortunately, and quite strangely, colleges don't understand this link and earnestly seek placements for their students, while looking the other way at the inadequate faculty size. Faculty is the oxygen that gives life and keeps it in the entire educational system, more so with Placements. Employers can instantly come to a firm view about a college that there cannot be talent that they can take from it, which is clearly plagued by shortage of faculty.

As regards First Division Pass, the correlation of the Total Faculty Size with First Division Pass Percentage is $(r(70) = 0.405)$, $p = 0.001$; correlation coefficient is on the upper side of moderate correlation and close to strong correlation. For a higher First Division Pass, Total Size of the Faculty is undeniably essential. Faculty ensures better learning for the students, which results in deeper understanding of the subject and the consequent better examination performance.

As regards another success parameter, Salary Packages, the correlation of the Total Faculty Size with Salary Packages is $(r(70) = 0.417)$, $p = 0.000$; correlation coefficient is on the upper side of moderate correlation and close to strong correlation. It goes without saying that Salary Packages too are influenced by the Total Size of the Faculty. It means that employers are willing to pay a higher pay, if they get the graduates with a better command over their chosen subjects, which is squarely possible with adequate faculty. They obviously opine that better field performance comes from a knowledgeable, skilled, and motivated graduate.

With the help of the above analysis, the hypothesis that the Total Faculty Size does not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages is not accepted. The former certainly influences the latter.

Hypothesis 2

Actual Working Faculty as against the required faculty does not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

Towards resolving the above hypothesis, a correlation analysis was performed; the results are given in Table # 2.

TABLE # 2 ACTUAL FACULTY WORKING AND SUCCESS PARAMETERS

		Percentage of Admissions in 2020 as against Intake Permitted	First Division Quotient	Placements Quotient	Salary Quotient
Percentage of Actual Faculty as against Norm	Pearson Correlation	.311**	.128	.150	.209
	Sig. (2-tailed)	.009	.292	.214	.082

The correlation coefficient of Percentage of Actual Working Faculty as against the Norm is $r(70) = 0.311$, $p = 0.009$; which is just weak. It means that Admissions are weakly, but not moderately

or strongly, linked with the Percentage of Actual Faculty Working as against the Norm. It implies that students just check, before taking admission, if the college has adequate faculty to teach every subject. They don't bother if the barely-enough faculty is really adequate to meet the regulator's norms or not. Regulator's norms are for ensuring highest quality, but student's expectations are about having enough teachers to handle each subject. However, the faculty size in line with the norms is not unnecessary, although students have lower expectations.

Further, the correlation of Percentage of Actual Working Faculty as against the Norm with other success outcomes, i.e., First Division Pass, Placements, and Salary Packages is insignificant as shown in Table # . Hence it is evident that Percentage of Actual Faculty Working as against the Norm has nothing with First Division Pass, Placements, and Salary Package.

The correlation coefficient of Actual Faculty Working with First Division is $r(70) = 0.128$, $p = 0.292$, Placements $r(70) = 0.150$, $p = 0.214$, and Salary $r(70) = 0.209$, $p = 0.082$. The p-values are not significant ($p = \text{value}$ should be less than 0.05, to be considered as significant).

The hypothesis that Actual Working Faculty as against the Norm does not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages is not accepted only in the case of Occupancy Ratio but accepted with regard to First Division, Placements and Salary Package.

Hypothesis 3

Doctorate Faculty Percentage does not influence Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

To resolve the above hypothesis, a correlation analysis was performed and the results set out in the following table (Table # 3)

Doctorate Faculty and Success Parameters

Table # 3

		Percentage of Admissions in 2020 as against Intake Permitted	First Division Quotient	Placements Quotient	Salary Quotient
Percentage of Doctorate Faculty	Pearson Correlation	.503**	-.087	-.107	-.132
	Sig. (2-tailed)	.000	.475	.376	.276

The analysis and the reported findings (Table # 3) show that Percentage of Doctorate Faculty and Admissions are moderately correlated; the correlation coefficient of Percentage of Doctorate Faculty with Admissions is $r(70) = 0.503$, $p = 0.000$. Doctorates, naturally having better mastery over the subject and holding the honorific, raise the hopes of the incoming students and the institutional reputation. This hope and expectation arise and stay in the minds of the incoming students at least till it is proven otherwise. Hence, the hypothesis that Doctorate Faculty does not

influence Admissions is not accepted. But, with regard to other success parameters, i.e., First Division Pass, Placements, and Salary Packages, this hypothesis holds true and hence accepted. The correlation coefficient of Percentage of Doctorate Faculty with First Division Pass is $r(70) = -0.087$, $p = 0.475$. No correlation is found at all. The correlation coefficient of Percentage of Doctorate Faculty with Placements is $r(70) = -0.0107$, $p = 0.376$. No correlation is found at all. The correlation coefficient of Percentage of Doctorate Faculty with Salary Package is $r(70) = -0.132$, $p = 0.276$.

Hypothesis 4

Faculty Development Programs attended by the faculty does not influence the Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

A correlation analysis was performed to check the hypothesis and findings provided in the Table # 4.

Research Papers of the Faculty and Success Parameters

Table # 4

		Percentage of Admissions in 2020 as against Intake Permitted	First Division Quotient	Placements Quotient	Salary Quotient
No of articles published /presented by faculty in the recent year	Pearson Correlation	.396**	-.072	-.076	-.117
	Sig. (2-tailed)	.001	.555	.532	.333

Research Articles Published/ Presented is an indicator of the faculty making efforts to keep up - to- date; faculty while reviewing the literature and researching get exposed to a wide array of developments and could thus deepen their understanding, which is naturally expected to help faculty in delivering better learning and skills to the students. These efforts must translate into improvement in the success parameters.

Table # shows the results of correlation analysis performed on Number of Articles Published and Presented, and the chosen success outcomes, i.e., Occupancy Ratio (Admissions), Placements, 1st Division Pass, and Salary Packages.

The correlation coefficient of Number of Articles Published and Presented with Admissions is $r(70) = .396^{**}$, $p = .001$; it means that Number of Articles Published and Presented correlates with Admissions. The correlation exists but is weak. Hence, the null hypothesis, as far as admissions are concerned, is not accepted. On the other hand, the null hypothesis, in respect of other success parameters, i.e. First Division Pass, Placements, and Salary Package is accepted since the correlation does not exist. The correlation coefficient of Number of Articles Published and Presented with First Division is $r(70) = -.072$, $p = .555$; The correlation coefficient of Number of

Articles Published and Presented with Placements is $r(70) = -.076$, $p = .532$; The correlation coefficient of Number of Articles Published and Presented with Salary is $r(70) = -.117$, $p = .333$.

Faculty Development Programs Attended

Faculty Development Programs are created for the active participation of the faculty so as to deepen their understanding of the subject, and internalize superior pedagogical methods. These initiatives on the part of college and faculty should in most cases help the faculty in the advancement of their skills and knowledge; such learning should primarily benefit the students; the purpose of attending them too is none other than the benefit to the students. So, they should necessarily result in the improvement in the success outcomes, i.e., Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages.

In view of the above, the hypothesis that this research formulates is that Faculty Development Programs attended by the faculty does not influence the Occupancy Ratio, Placements, 1st Division Pass, and Salary Packages. To resolve the foregoing hypothesis, correlation analysis was performed and its results presented in the following Table # 5.

Table # 5

		Percentage of Admissions in 2020 as against Intake Permitted	First Division Quotient	Placements Quotient	Salary Quotient
No of FDPs attended by faculty in the recent year	Pearson Correlation	.352**	-.003	-.047	-.017
	Sig. (2-tailed)	.003	.978	.698	.890

The correlation Coefficient of Number of FDPs attended by the faculty with Admissions is $r(70) = .352^{**}$, $r = .003$; it means that there exists, some correlation, although weak, between FDPs attended and Admissions. To this extent, the hypothesis is not accepted. But with regards to other success parameters, the correlation does not exist. The correlation Coefficient of Number of FDPs attended by the faculty with First Division is $r(70) = -.003$, $p = .978$; the correlation Coefficient of Number of FDPs attended by the faculty with Placements is $r(70) = -.047$, $p = .698$; The correlation Coefficient of Number of FDPs attended by the faculty with Salary Package is $r(70) = -.017$, $p = .890$. Hence, null hypothesis that Number of FDPs attended by the faculty does not influence First Division Pass, Placements and Salary Packages is accepted.

CONCLUSION

The correlation of the Total Size of the Faculty with Admissions is moderate and indicates a sufficient link between Total Faculty Size and Admissions.

Total Faculty Size correlates with Placements weakly. Total Faculty Size correlates with First Division Pass Percentage moderately. Same is the case with Salary Packages; Total Faculty Size moderately correlates with Salary Packages.

As regards another success parameter, Salary Packages, the correlation of the Total Faculty Size with Salary Packages is on the upper side of moderate correlation and close to strong correlation.

Admissions are weakly linked with the Percentage of Actual Faculty Working as against the Norm. Further, the correlation of Percentage of Actual Working Faculty as against the Norm with other success outcomes, i.e., First Division Pass, Placements, and Salary Packages is insignificant

Percentage of Doctorate Faculty and Admissions are moderately correlated. But, with regard to other success parameters, i.e., First Division Pass, Placements, and Salary Packages, this hypothesis holds true and hence accepted.

Number of Articles Published and Presented correlates with Admissions. The correlation exists but is weak. On the other hand, the null hypothesis, in respect of other success parameters, i.e., First Division Pass, Placements, and Salary Package is accepted since the correlation does not exist.

There exists, some correlation, although weak, between FDPs attended and Admissions. But Number of FDPs attended by the faculty does not influence First Division Pass, Placements and Salary Packages is accepted.

Limitations and Scope for Further Research

The data was collected in Covid 19 pandemic conditions and so access to a big number of respondents was an issue. The sample could have been bigger. The achievement figures used as data on dependent variables, which the colleges furnished to the researcher could not be cross-verified. Hence the veracity of the figures is not completely reliable.

The findings reported in this should be validated with similar research in the other parts of the world.

Summary

Total Faculty Size is indispensable for all success parameters, Admissions, Placements, First Division Pass and Salary Package. Actual Working Faculty is a consideration for Admissions only, but not for Placements, First Division Pass and Salary Packages. Same is the case with Doctorate Faculty. It has relation with Admissions only but not with other success parameters. The Number of Articles Published and Presented has some relation with Admissions but not at all with other parameters. Same is the case with FDPs attended by faculty, which has some relation with Admissions but not with other parameters.

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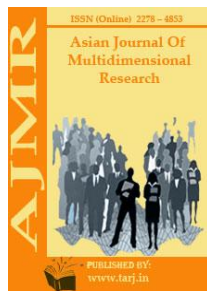
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FROM THE HISTORY OF FORMATION AND DEVELOPMENT OF NOTARIAL INSTITUTIONS

Kholikulov Sherzod Bozorovich*

*Researcher,
Samarkand State University,
UZBEKISTAN

ABSTRACT

This article describes the reasons for the emergence of notarial activity, the people who are engaged in notarial activity for the first time, as well as the development stages of notarial activity. In addition, the transformation of notarial institutions into a separate state organization by the church, the formation of the activity of chancellery office and its staff so called notaries are described. These institutions, formed by the church, gradually became secular, and now notaries are engaged in the management of documents and relations of citizens, information on the subsequent stages of development of the notarial institution, the types of penalties imposed on notaries in case of violation by law of notaries, the work done on the storage of notarial documents are described.

KEYWORDS: *Scripts, Clerks, City Masters, Tabellions, Notaries, Notarial Documents, Court Records, Copies, Power Of Attorney, Testament.*

INTRODUCTION

Although the Institute of notaries, which was established in ancient Rome, constantly developed during its development, the essence remained the traditions of its Roman legislation.

Until the IX century BC, secretaries in Rome were engaged in the creation of the legal status of documents, and established their work either in the civil service or in the hands of private individuals. Secretaries are those who have knowledge of the law. Secretaries in the civil service were called scribes or service secretaries, this career was given to them by the forever, they were provided with a permanent salary by the state. Secretaries also called them “accountant secretaries” because they also have the right to conduct public accounts. Work related to the copying of documents signed by the master of the city and certified by the seal, was also entrusted to secretaries. During the process, the secretaries recorded the opinions expressed by

the chief judge in separate court books, which was the initial appearance of the court statement document named “acta” or “gesta” today.

Separate persons were recruited to secretaries or rich people working in the hands, and they were called extrinsic (exceptores), or slaves– notaries (notaries). In the IV-V centuries, when the Roman Empire existed, the term of the exceptores became the common name of Secretaries serving in all Roman institutions, while the notary was originally used to refer to the secretaries of the emperors and then to the secretaries of the bishops, who recorded their discussions with the people. Also in Rome there was another category of tabellions (tabellions), which were engaged in the maintenance of legal documents, and they were engaged in independent activities. In particular, these secretaries are those who have the right to write and prepare legal documents according to the appeals of citizens, to obtain a basis for the prepared documents. Anyone who knew Roman rights well could have been a tabellion. Tabellions United into a separate Association. N.Lyapidevsky believes that any person who needs to draw up a legal document should apply to the tabellion office. Based on the oral opinions of the applicant, tabellion formulated a special legal Act, which, of course, took into account the rights and obligations of the applicant, was read to the parties if the applicant has more than one. After that, the seal was transferred to paper and signed by tabellion and witnesses. Document keeping in this order was a means of proving the authenticity of the tabellion signature. As noted above, secretaries operating under churches later laid the foundations for a notarial institution. In connection with the transformation of Christian teaching into a dominant religion in the West, the church set out its work in a peculiar way.

However, it should be noted that there is no exact information in historiography about the time of the occurrence of church notary activities. Western Church historians refer notaries to evangelists; some of these historians believe that evangelists were the first representatives of notarial institutions. It is said that the bishop of Rome, Clement, had appointed one notary to each of the seven district in Rome to document the Christians suffering, the Bishop Fabian had issued an order to allocate seven more dyakons to help these notaries.

N.P.Lyapedevsky, who studied the history of Russian notaries in the above-mentioned comments. Expressed reverence and asserted that the registration of tormented Christians was associated with an increase in the number of geniuses and attempts to enter the Church of saints who suffered from forgery and such a situation, was not met during the time of Pope Climent. Perhaps, church notaries existed in the time of the Holy Climent, but these institutions were not limited to work related to the protection of the purity of the church, the author notes.

Relying on available sources, it can be said that in the VIII century the institution of notaries was transformed into a separate state organization by the church, the activities of the Devon and its employees, which received the name of notarii, were formed. This institution, formed by the church, gradually acquires a secular character, and now the notaries are engaged in maintaining the documents and relations of citizens. This category, which appeared at the end of the VII century, was called a notarii publici.

The subsequent development of Notarial institutions was closely connected with the collapse of the Western Roman Empire and the Customs and rights conferred by the varvar tribes. In particular, Roman tabellions "scribae publici" that is, those who continued their activities under the name of Public Secretaries. Among the Roman tabellions were elected persons of the same name, remembering the notaries of the former Roman emperors. Only notaries in the kingdom of

varvar, unlike the notaries of the Roman emperors, also had judicial authority. Also, the procedure for the maintenance of notarial acts for ordinary citizens is preserved.

The next period of the development of the notarial institute dates back to the time of the Great Karl. At the moment, during this reign, a new legal document appeared which received the name of the Capitol. In it all the rights inherent in one empire are concentrated. This legal document raised notaries to the level of officials. As of 774 years ago, when the Italian territories were conquered, the Great Karl forbade the participation of the psychics in the work related to the passage of notarial acts, that is, now the psychics did not perform such works as the collection and Proceedings of documents under the legal agreements of secular citizens. And this was a new appearance of notaries. In one of the capitulations issued in 803 year, it was written that the zendgrafs, who were the commissars of the emperor, could use the service of notaries in addition to scabins and advisers in the judicial process. Notaries were elected among the secretaries of the church. According to the above-mentioned capitulation, it was noted that their consent was important when appointing notaries from citizens, just as in the process of appointing courts. The notary, chosen by the imperial commissioner, should have been recognized and recognized among the inhabitants of this territory. In this way, according to the list, which received the name "martikul", sent to the emperor's office, the notaries were considered civil servants and called them "elected notaries". Although in the early days the law of 803 year limited the number of notaries, but in later periods the number of persons engaged in this institution and activity was constantly changing.

Notaries elected in accordance with the law of 843 year have the right not only to carry out documents related to the judicial judgment, but also to document and regulate important agreements having legal force with the participation of graf, scabins. Such legal acts consisted of introductory, basic parts and summary clauses, which existed during the Roman Empire. Confirmation with a seal of document made by notaries in the Carolingian period is included in circulation. It should be noted that the seal on the document was a seal of a separate placita without belonging to a notary; such seals were a means of proving that they had legal force in public participation and their testimony at the time of the gathering of people. Only from the XI century, Italian notaries had their own personal seals. The transition of the notary from free activity to the appearance of a state institution was completed by the XI century. We do not meet the opinion that notaries were elected in the documents of the XII-XIII century. The reason was elected by this time, and such a concept as ordinary notaries went out of circulation, without the label of the supreme ruler, no one had the right to become a notary. Also by the end of the 12th century, the term "tabellion" also gives its place to the notary. In the legal documents adopted in European cities of the medieval period, the following requirements were made for the person to be appointed as a notary:

- The person should have been free, that is, a notary slave should not be either a subordinate or a subordinate.
- Be in the age range from 18 to 40 years of age.
- Be the owner of perfect manners.
- To have a legal education.
- Ability to work with notary documents.
- The corporation is subject to approval.

In some cases, attention is also paid to the fact that the person being certified as a notary is a citizen of the same city and is a child born from a legal marriage. The authority of the notary public was attributed to:

- Formalization of documents on the responsibility and plaintiff's coming to court during the trial,
- Formalize the instructions of the healer and the respondent,
- Formalization of testimony of witnesses,
- Formalization of power of attorney,
- Formalization of documents on the right of inheritance, etc.

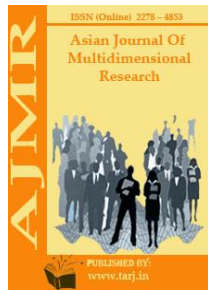
Also included in the authority of notaries are tasks such as drawing up a court decision and copying from it.

In the process of forming and developing the activities of medieval notary offices, certain restrictions were also applied to the notary. They did not allow the applicant to refuse to help the notary in drawing up documents; the content of the document was perfectly processed without deviating from the rules of etiquette. On Sundays, holidays, as well as at night, it is forbidden to draw up notarial documents and conduct business with them. In the case when any of these cases, established by law, occurred, the notary was fined a large amount. Document in relation to a notary who committed cases related to forgery, the penalty for burning in the camp was applied. However, this process was carried out after the occurrence of violations of the 3 time procedures by a notary. In the cities of medieval Italy, a separate order for the storage of notarial documents was established. In particular, after the death of a notary, books of all documents and records maintained by him were transferred by the city administration to the public archive. In the proceedings of the will, the designation of the guardianship, the documents related to the correspondence of the property of citizens of small age, it was mandatory that the notary fill in the documents and submit it to the city hall with the division. At the same time, if the notary dies, the work initiated by him was carried out in such a way that the cases of finding another person were also not excluded from the scope of the law.

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MODERN URBANIZATION FEATURES OF ZARAFSHAN ECONOMIC DISTRICT

Haydarov Dilshod Ochilovich*

*Teacher (PhD),
Samarkand State University,
UZBEKISTAN

ABSTRACT

In this article, analyzed the basis of an interdisciplinary approach as well as urban processes in the Zarafshan economic region. In particular, on the basis of a comparative approach with republican indicators, were studied issues related to the problems of urban development and their urban structure. It is known that the development of the territorial division of labor in each country is reflected primarily by its socio-economic potential in its urbanistic and territorial urbanistic structure. The concept of "regional urbanistic content" [1,304] is a well-known scientist I.M.Maergoyz included in the theme is the city grid in different regions, in particular with the way in which large cities are formed and developed.

KEYWORDS: *Urbanization, Demographic Processes, Regional Urbanization, Zarafshan Economic Region, Economy, Infrastructure, Industry, Cities.*

INTRODUCTION

After the country gained its independence, the improvement of the system of cities that form the core of the territorial structure of the state, the correct and effective use of their existing natural, production and scientific and technical potential became one of the pressing issues. Consequently, the structure of the national and regional economy is closely connected with the type and system of cities. Therefore, it is of great importance to study the changes in the urbanistic structure of the Republic in the conditions of new economic relations, as well as the country-specific aspects and influence of world urbanization.

It is known that the development of the territorial division of labor in each country is reflected primarily by its socio-economic potential in its urbanistic and territorial urbanistic structure. The concept of "regional urbanistic content" [1,304] is a well-known scientist I.M.Maergoyz included in the theme is the city grid in different regions, in particular with the way in which large cities are formed and developed.

There are more complex, simple and complex forms of zoning, separating zoning. True zoning is individual, and when determining the boundary of the zones, the economic space is taken into account its internal structure (composition) characteristics, specialization and embodiment of production, combination, the presence of zoning centers[2,15].

The economic zone is formed mainly under the influence of the folding factors: the integrity of the territory and its geographic location; specialization of its economy; the presence of Rayon-forming centers; natural conditions and Natural Resources; Development of transport and other infrastructure; demographic situation and labor resources; historical development characteristics of the place, etc.

The regions of the Republic different according to their urbanistic composition, their genetic characteristics, functional types and large size. In particular, on the eve of independence, the country had a total of 123 cities and 104 towns (urbanization rate – 40,8 per cent). In 1992, there was situation in the Republic's geourbanistics. This year, the urbanistic system of Uzbekistan has expanded to 17 addresses. They include in Jizzakh-Zarbdar and Zafarabad, in Samarkand – Mirbazar, in Syrdarya – Dustlik, in Tashkent – New Chinoz, in Kashkadarya – Nuristan, in Karakalpakstan-Akshalak and Kazanketken city addresses[3,28]. In the same year, the urban network in the South-urbanization area has increased to 5 units (Angor, Dustlik, Sariq, Hurriyet and Elbayon), which is explored by the development of modern transport and other infrastructure in the region. On the contrary, cities such as Gurlan, Khonka, Shovot and Hazorasp in the Khorezm region fell into a series of settlements. In 1994, Payariq in Samarkand region, and in 1995 Shafirkon district centers in Bukhara region gained the status of the city[4,31]. It is worth saying that from 2000 to the new era of urbanistic reforms only 2 settlements have been created, except for that. In 2004, Karmana was separated from the ancient city of Navoi and registered as a city.

In the same year, two cities of Karakalpakstan, Kyzketkan and Pristansky were united into the composition of its capital. After the establishment of the town of Elabad in Kungrad district, there was no change in the geography of the cities of Uzbekistan[5, 278].

By the beginning of the new century, the government of the Republic began to carry out reforms to improve the urbanistic system. In particular, on July 14, 2005, the president of the Republic of Uzbekistan "on measures for further improvement of the administrative-territorial structure of the population points of the Republic of Uzbekistan"[6, lex.uz] the decision was taken. Also, with the adoption of the state program "year of rural development and welfare" in 2009, it has been defined as one of the main tasks of increasing the production and infrastructural capacity of rural areas. Restoration of the modern infrastructure system in the villages, bringing industry to these places, improving the spheres of service to the population, from the inside of urbanization, means the development of a specific "concealment".

In addition, the resolution of the Cabinet of Ministers of the Republic of Uzbekistan "on additional measures to improve the administrative-territorial structure of the Republic of Uzbekistan" on March 13, 2009 [7, Lex.uz] according to the geography of cities of our country increased by 965 units. In 2016, on measures of the Cabinet of Ministers of the Republic of Uzbekistan "on further improvement of the procedure for the development of urban development documents for the development and construction of the regions of cities and urban settlements" and on measures for the radical improvement of urbanization processes" of the president of the Republic of Uzbekistan in 2019 year 10 [8, Lex.uz]decisions are from the sentence.

In the period after 2009, the formation of the city network and system in the Republic and its regions, urbanization process is taking a special toll (Table 1). According to 2015, 50.6 percent of the population of the Republic of Uzbekistan lived in urban areas. According to the analysis, the total indicator of urbanization in our country in the last 10 years (2009-2018 yy) urbanization rate decreased from 51.7 percent to 50.6 percent. Especially in Khorezm (33.3%), Surkhandarya (35.5%), Bukhara (37.4%) and Samarkand (37.4%) regions, urbanization rate decreased. The change in the level of urbanization is due to factors such as the specialization of the economy of the regions, the development of urban-forming sectors, the emergence of new urban settlements, the natural increase in the population, as well as external migration.

At present, the most urbanized region in the Republic is the Namangan region. Also in Fergana (57,0 %) and Andijan (52,5 %) regions, the health of the population of the city is much higher than the average of the Republic. The rate of urbanization belongs to the regions below the country's indicators: Khorezm, Surkhandarya, Samarkand and Bukhara. In this context, when approaching, the new urbanistic potential of some regions (Republic of Karakalpakstan, Navoi) does not reflect the Real situation [9,].

After the urbanistic reforms in 2009, 1199 settlements were registered in the Republic. 966 of them are suitable for newly established towns. Of course, most of them are conspicuous by the fact that the production potential has an agrarian property. The regions of Fergana (196), Kashkadarya (119), Surkhandarya (107) and Namangan (109) occupy high positions in the territorial structure of the agro-cities [9,6Lex.uz].

TABLE 1 CHANGES IN URBAN SETTLEMENTS AND URBANIZATION LEVEL IN ZARAFSHAN ECONOMIC ZONE (POPULATION, THOUSAND PEOPLE)[8,]

Mints	2008 year			2009 year			2015 year		
	cities	towns	rate of urbanization, %	t cities	towns	rate of urbanization, %	cities	towns	rate of urbanization, %
Republic of Uzbekistan	119	114	35,8	119	1080	51,7	119	1085	50,6
Regions:									
Bukhara	11	2	29,2	11	62	38,8	11	69	37,9
Navoi	6	8	39,5	6	38	49,6	6	47	49,1
Samarkand	11	12	25,1	11	88	37,4	11	88	38,0

It is worth noting that the complexity of the urban system, the identification of their hierarchy (Rank), also leads to the distribution of functions (functions) between cities. The peculiarity of the country's urbanization is explained by the large number of small towns in the chain of cities. Since the Republic specializes mainly in the agricultural and processing industries, more than 4/5 parts of the geourbanistics are made up of small towns. Since most of the cities adopted as a result of the new urbanistic reforms were tiny cities, the health of the cities of this category again increased. This can also be observed on the example of the Zarafshan economic zone (Table 2).

In 2015, there were 1091 small towns, of which 37.8 percent of the population of the Republic was a resident. The number of cities in the middle stage is 20, corresponding to 1.6 percent of the total urban settlements. The number of major cities in the Republic is 6 (Samarkand, Namangan,

Andijan, Karshi, Nukus, Fergana), 11 large cities, 75 "semi-middle" cities. Currently, the projects implemented in the International Logistics Center (Angren MIZ), Jizzakh special industrial zone and "Navoi" free industrial zone will play an important role in the development of the geography of cities of our country in terms of ensuring road independence. In particular, the commissioning of the Uchkuduk-Sultanovays-Nukus railway in 2001, the Tasguzar-Boysun-Kumkurgan railway in 2007 allowed the formation of the country's railway system as an independent holistic structure. The main thing is that the traffic geographer's role as the growth poles and centers of urban settlements such as Navoi, Uchkuduk, Khalkabad, Guzar, Dehkanabad, Boysun, Kumkurgan, Miskin is further improved in these regions.

TABLE 2 REGIONAL-URBANISTIC STRUCTURE OF ZARAFSHAN ECONOMIC DISTRICT (IN THE CASE OF 2015, A THOUSAND)

Regions	Small cities			Semi-middle city			Middle city			Big city			The largest and millionaire city		
	number	population	%	number	population	%	number	population	%	number	population	%	number	population	%
Republic Of Uzbekistan	1091	5962,5	37,8	75	2155,6	13,6	20	1302,3	8,2	11	1764,3	11,2	7	4563,3	28,9
Zarafshan economic zone	212	969,0	39,3	13	366,3	14,8	4	262,8	10,6	2	379,8	15,4	2	486,0	19,7
Bukhara region	76	303,6	44,7	2	66,4	9,7	1	58,9	8,6	1	249,5	36,7	1	486,0	9,5
Navoi region	48	171,7	38,2	3	81,5	18,1	1	65,0	14,4	1	130,3	29,0	-	-	-
Samarkand region	88	493,7	36,9	8	218,4	16,3	2	138,9	10,3	-	-	-	1	486,0	36,3

Note: cities with a population of 20-50 thousand people.

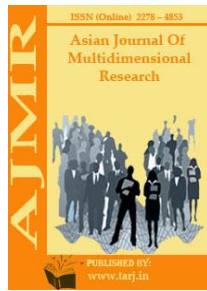
Despite the measures taken and the work carried out, the role of the Republic on the urbanization level in the world is not high. According to the UN international rating indicators, Uzbekistan ranked 155th among 233 countries in this direction in 2018. However, the average figure in the world in this area is 55.3 per cent, which is 74.4 per cent in Russia, 75.1 per cent in Turkey, 51.6 percent in Turkmenistan[10,6].

Thus, although the development of cities in the first years of independence was somewhat slowed down, thanks to the next "urbanistic wave", the population of the city grew by almost 10

percent in 1991 year compared to 2018 year. Such growth concerns were mainly on account of administrative changes, that is, in 2009 year, the transformation of about a thousand rural population punks into urban villages. In the development of the geography of cities in our republic, urbanistic reforms, "Free economic zones" organized and organized play an important role.

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CHARACTERISTIC FEATURES OF MORPHOLOGICAL CHANGES IN THE SPLEEN TISSUE OF WHITE RATS AFTER A MODERATE TRAUMATIC BRAIN INJURY

Fayziev Xurshid Burhanovich*

*Bukhara State Medical Institute named after Abu Ali Ibn Sina,
UZBEKISTAN

ABSTRACT

The experiments were carried out on 14 white mongrel rats of 3 months of age. Experimental animals were attached to a device made by hand in the form of a wheeled vehicle, these animals accelerated on the vehicle at a speed of 7 km / h and hit the wooden barrier with the frontal part of the head. All animals were kept in satisfactory conditions in the vivarium of the medical institute in compliance with the standards of care for laboratory animals. These laboratory rats, prior to injury, were trained in the Morris Water maze to determine the preservation of cognitive memory and the acquisition of skills for survival in water, which was evaluated by temporal and territorial indicators. The experiment was conducted on animals that received a moderate traumatic brain injury. Experimental rats after the experiment, after ether anesthesia by means of instant decapitation of animals were beheaded on the spot. Then the abdominal cavity was opened and the spleen was removed. After that, the spleen was examined and studied on the spot, as well as the necessary dimensions were measured in accordance with the established procedure.

KEYWORDS: *Spleen, Rat, Tissues, Red Pulp, White Pulp.*

INTRODUCTION

One of the most pressing problems of public health is still traumatic brain injury, which dictates the need for further study and epidemiological assessment of the incidence, prevalence and long-term results of treatment of traumatic brain injuries. A "silent epidemic" that leads to deaths and disability of victims more often than any other traumatic injury. [6,9].

Over the past decades, the world has seen a steady increase in natural disasters, man-made disasters, transport accidents, military conflicts, which are accompanied by massive traumatic injuries, especially to the brain. Skull and brain injuries account for more than 30% of all injuries [1,3]. Traumatism is one of the main medical and social problems in industrially developed

countries and requires very large investments to solve it. In many countries, injuries in the structure of causes of death of the population follows cardiovascular and oncological diseases, and TBI ranks first in terms of the total economic and medical and social damage inflicted on society [2,3].

For example, in Russia, 35 thousand people die annually as a result of road accidents (road accidents), and most of them are people of working age. [3,4], Currently, the epidemiological aspects of TBI in various regions of the world are covered in detail in many scientific papers. The analysis of the available data draws attention to the significant fluctuations in the prevalence of these injuries, which varies from 100 to 800 per 100 thousand population. The study of the epidemiology of traumatic brain injury in various countries has shown that about 70 million people receive a traumatic brain injury in the world every year. Per 1000 population in China, it is 7.3%, in the USA - 5.3%, in Russia - 4%, in Scotland - 1.1% [5, 11].

1.6 million people receive TBI every year in the USA: 51 thousand of them die, and 124 thousand become disabled for life or for a long time. In Russia, about 600 thousand people receive TBI annually, 50 thousand of them die, the same number becomes officially disabled, but in fact their number is much higher. In Russia, the number of people with disabilities due to TBI exceeds 2 million [1, 6]. In Uzbekistan, according to the Institute of Health, the number of mechanical injuries per 100,000 populations is more than 3,000; in some regions of the country this figure is even higher. According to the number of TBI, this figure exceeds 592 cases per year per 100 thousand populations. In our country, traumatism ranks second among the causes of temporary disability and disability after diseases of the circulatory system. Injuries are more common in people of working age (18-60 years) - 59.9% of cases, 36.9% occur in children and adolescents. Of the total number of injuries, 30-40% are isolated TBI [1, 12]. According to world statistics, about 60% of TBI are the result of road accidents, 20-30% are caused by falls, about 10% by violence and 10% are industrial and sports injuries [7, 10]. In the structure of the causes of TBI, both in our republic and in Russia, household injuries dominate (40-50%), road transport accounts for 30-40%, the share of industrial and sports accounts for 4-12%. At the same time, people in a state of alcoholic intoxication experience injuries 2.3-3 times more often [8, 15]

There are discrepancies regarding the prevalence data in the USA. So, according to one source, 103 cases per year are recorded in this country, according to other data, the prevalence of TBI varies from 132 to 367 cases per 100 thousand population. At the same time, the results of the most recent studies indicate that according to similar data from reports on outpatient and inpatient care and reports on pre-hospital mortality, 538 cases per 100 thousand population were recorded. [12,19] The assessment of the prevalence of TBI in the EU countries, conducted on the basis of 23 national and regional epidemiological studies, showed that this indicator averages 235 cases per 100 thousand population per year [14,18]

According to most authors, TBI is more common in men than in women. The male/female ratio among patients with TBI varies from 2:1 to 3:1, 4:1 and more. The greatest disproportion in the prevalence of TBI between men and women, exceeding the average, is detected in the age groups of 20-24 years and corresponds to a ratio of 1:4.27 [9], i.e., according to statistics, men receive this type of injury 2-4 times and more often than women in almost all age groups, with the exception of the group older than 70 years [2].

As the analysis of studies devoted to the study of mortality due to TBI in China has shown, the data in the city and in the countryside has a significant difference, which creates difficulties in

interpreting the results of statistical studies. Thus, a very high prevalence of TBI was registered: 783.3 for cities and 442 for rural areas per 100 thousand population per year, while mortality was 6.3 and 9.7 per 100 thousand population, respectively. All this indicates serious deviations in the sample or shortcomings in the methodology of statistical research in China or a biased approach to assessing mortality in Europe [16]. In Uzbekistan, according to the average statistical data of the Institute of Health of the Ministry of Health of the Republic of Uzbekistan, the mortality rate is 49 cases per 100 thousand populations. According to the analysis in the RNCEMP for the period from 2010 to 2017, in the republic, 2949 patients with TBI were admitted to the neurosurgical intensive care unit, while the mortality rate was 12-16%. It should also be noted that the annual increase in victims with TBI, of which those with isolated TBI are 18% per year on average [10, 13].

It should be noted that, at present, although the spleen is not considered as one of the most important organs, however, it is one of the main collectors of lymphoid tissue. In the body, it performs one of the important hematological and immunological functions, forming a generalized immune response of the whole organism to the penetration of an antigen, an inflammatory process or any other violation of the body's homeostasis [17, 18].

In general, there is an increase in both traumatic brain injuries and mortality as a result of TBI worldwide. It should be emphasized that as a result of brain injuries, primarily representatives of the young and able-bodied part of the population die and are disabled, which takes this pathology beyond the scope of a medical and social problem. Based on the above facts, it should be noted that the issues of medical care for TBI are among the priorities and require close attention at the stage of both pre-hospital and hospital medical care.

MATERIALS AND METHODS

This experiment was carried out on 14 white rats of 3 months of age. The experimented animals were fixed on a device made by hand in the form of a wheeled vehicle, fixed laboratory rats accelerated on the vehicle at a speed of 7 km / h and hit a wooden barrier with the frontal part of the head. As a result of this experiment, 1 white rat died on the spot. The remaining 13 laboratory rats were kept in satisfactory conditions of the vivarium of the Medical Institute throughout the experiment. After the experiment, all laboratory rats were decapitated on the spot after receiving ether anesthesia by instant decapitation. Further, after opening the abdominal cavity, the spleen was removed for further study.

The experiments conducted on laboratory animals were carried out in accordance with the Helsinki Declaration of the International Medical Association of 1964, as well as declarations adopted in 1975, 1983, 1989, 1996, 2000, 2002, 2004, 2008, 2013 years. This seized organ was fixed in Buena's solution and placed in paraffin. Next, sections of 6-7 microns in size were prepared and stained in hematoxylin-eosin solutions. The research was carried out on the NLCD NOVEL-307B microscope (China)

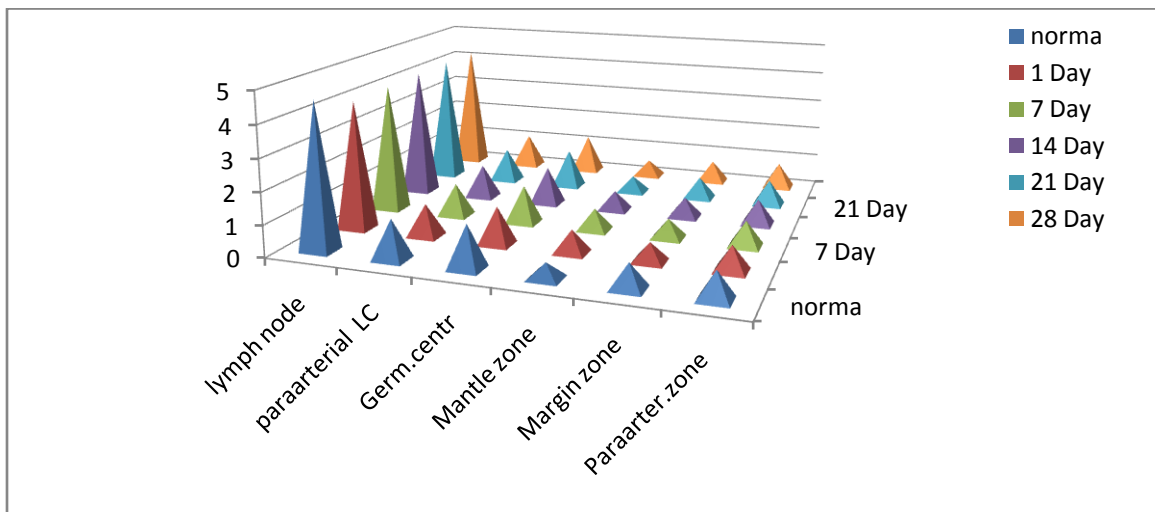
RESEARCH RESULTS

Characteristic morphological and morphometric features of the spleen of rats with moderate traumatic brain injury showed the following results. On examination, periarterial lymphatic couplings (PALC) and lymphoid nodules (LN) gave the following results. PALM diameter ranges from 98.8 microns to 118.8 microns, with an average of 102.11 ± 1.53 microns. The diameter of the lymph nodes ranges from 331.2 microns to 485.65 microns, on average $409.24 \pm$

12.62 microns. Lymphoid nodules can be visually divided into primary and secondary, the percentage of which is 18% and 82%, respectively. In secondary LN, the formed germinative centers are determined. The diameter of the germinal centers ranges from 78.6 microns to 121.8 microns, on average 118.4 ± 6.22 microns. Large LN, often merge. The LN of the white pulp of the spleen mainly has a rounded, oval and elongated shape.

Sometimes there are cases of indistinct separation of sections of white pulp. But in the main cases, the LN zones are clearly distinguishable. The width of the mantle zone ranges from 59.7 microns to 83.45 microns, with an average of 72.32 ± 0.69 microns. The width of the marginal zone ranges from 49.3 microns to 64.7 microns, with an average of 60.22 ± 1.12 microns. The width of the periarterial zone ranges from 76.9 microns to 84.4 microns, with an average of 79.12 ± 0.58 microns. It was found that the total number of lymphocytes in the LN without breeding centers is 28-36, on average - 32.8 ± 0.91 cells. Lymphoid nodules without reproduction centers contain (per unit area) small lymphocytes - 28-34 on average - 32.0 ± 0.71 cells, medium lymphocytes - 10-12, on average - 10.8 ± 0.18 cells, large lymphocytes - 2-3, on average - 2.1 ± 0.1 cells.

The total number of lymphocytes in the periarterial lymphoid couplings of the white pulp of the spleen is 30-44, on average - 37.2 ± 1.2 cells. Periarterial lymphoid couplings contain (per unit area) small lymphocytes -20-27, on average - 26.0 ± 0.71 cells, medium lymphocytes - 9-11, on average - 10.85 ± 0.17 cells and large lymphocytes -3-4, on average - 3.2 ± 0.1 cells



Drawing No. 1 Graphic representation of morphometric changes with an average degree of traumatic brain injury..

	norma	1 day	7 day	14 day	21 day	28 day
Lymph node	4,6	4,09	4,13	4,17	4,19	4,19
Paraarterial lymphatic coupling	1,24	1,02	1,04	1,08	1,1	1,1
Germinative Center	1,35	1,18	1,2	1,21	1,25	1,25
Mantle zone	0,48	0,72	0,69	0,63	0,54	0,54

Marginal zone	0,77	0,6	0,61	0,64	0,71	0,71
Periarterial zone	0,85	0,79	0,8	0,81	0,83	0,83
These are shown in microns	<i>par</i>					

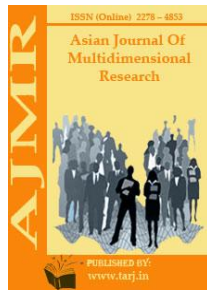
CONCLUSIONS

These studies allow us to conclude that in existing cases of traumatic brain injury of animals, in this case laboratory mongrel rats, with moderate severity also lead to some changes in the structure of the spleen. A decrease in the size of lymphatic follicles, germinal centers, palms, mantle and marginal zones by almost 5-10 percent and an increase in the size of the mantle zone by almost 20 percent from the normative indicators.

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INSPECTION OF CONCRETE IN REINFORCED CONCRETE ELEMENTS

Ugilyo Abdukhalimjohnovna Mirzaakhmedova*

*Senior Teacher,

Department of Construction of Buildings and Structures, Faculty of Construction,

Fergana Polytechnic Institute,

Fergana city, UZBEKISTAN

Email id: mirzaahmedova@fer.uz

ABSTRACT

Investigation of some characteristic values of concrete in reinforced concrete elements is necessary. This survey makes it possible to assess the actual work of concrete in the design of reinforced concrete. It is recommended to measure the width of crack opening in reinforced concrete elements in the places of maximum opening and at the level of stretched reinforcement. The length of the cracks is measured using a millimeter ruler, and the width of the opening is measured with a template thickness gauge, graduated loupes with 4x magnification or measuring microscopes with 24 x magnifications.

KEYWORDS: *reinforced concrete structures, cracks, preliminary examination, accuracy, concrete strength, method of determination, testing, hidden defects, reinforcement, degree of corrosion.*

INTRODUCTION

It is recommended to measure the width of crack opening in reinforced concrete elements in the places of maximum opening and at the level of stretched reinforcement. The length of the cracks is measured using a millimeter ruler, and the width of the opening is measured with a template thickness gauge, graduated loupes with 4x magnification or measuring microscopes with 24 x magnifications. To improve the reading accuracy, it is advisable to install a 100 mm long tube between the object and the microscope eyepiece [1-12].

Materials, designs and prototyping

The depth of cracks can be determined using needles and thin wire rods, the ultrasonic pulse method, and also by the formula:

$$y_{crc} = V / 2 \sqrt{t_1^2 - t^2} \quad (1)$$

Where: V - the speed of ultrasound in undisturbed concrete; t and t_1 - the propagation time of the ultrasonic signal on the base, respectively, X_{sm} in the area without cracks and with a crack (Fig. 1)

For cases when it is difficult to directly measure the width of the force crack opening at the level of the reinforcement of bending elements a_{crc}^z it is allowed to calculate it by the formula:

$$a_{crc}^z = \frac{a_{crc}^{max}}{2/3h} (2/3h - h_d) \quad (2)$$

Where: a_{crc}^{max} - the width of the crack on the surface at the point of maximum opening; h - element height; h_d - the thickness of the concrete cover.

To observe the dynamics of the development of cracks in reinforced concrete elements in time, in addition to the well-known "beacons", various kinds of devices are used, in particular, slot gauges, fixed with dowels.

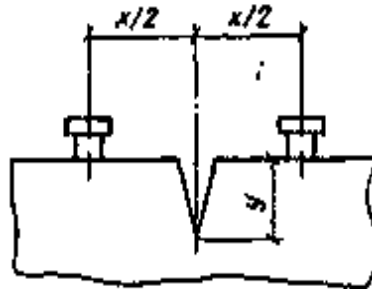


Fig.1. Determination of the depth of cracks by the ultrasonic pulse method

The strength of concrete should, as at the stage of preliminary surveys, be determined in those places where, according to the structure's operation scheme, it is of the greatest importance from the point of view of the bearing capacity, as well as in the protective layer of the preserved structures..[1-14]

To determine the strength, instruments and devices of mechanical action and acoustic devices are used.

Experimental Research Technique

The accuracy and reliability of surface methods for determining the strength of concrete increases significantly when completing, when a correlation is observed between indirect indicators. When the methods of elastic rebound and plastic deformation are combined, the concrete strength R is determined by the:

$$R = (80 \cdot r_{is} \cdot m_b \cdot \lambda \cdot h_j) / (\pi \cdot d_i) \quad (3)$$

Where: r_{is} - radius of the spherical imprint; m_b - the mass of the striker; λ - constant of the device; h_j - the height of the elastic rebound; d_i - the diameter of the plastic imprint.

Acoustic tests of concrete strength are performed using instruments. At the same time, along with the strength, the homogeneity of concrete in terms of density, the presence of voids, hidden defects, and the depth of cracks are assessed.

It is allowed to use various modifications of ultrasonic devices to improve the accuracy and reliability of their operation.

Of the partially destructive methods for determining the strength of concrete, which do not affect the serviceability of structures, the method of extracting samples (cores, cubes) from relatively massive elements with subsequent testing of samples, the method of shearing the rib of the structure and the method of shearing off with shearing are used. The latter gives the most reliable results (with preserved smooth surfaces of the element and concrete strength of more than 8 MPa). This method is recommended to be used as a basic method in all cases when it is difficult to extract a sufficient number of cores or samples of the correct shape for testing by destructive methods, and the above non-destructive mechanical and acoustic methods are used in conjunction with the basic one.

After testing the strength of concrete by the method of separation with spalling, a visual inspection of the fresh fracture of the concrete is carried out, while fixing:

- Type and maximum size of coarse aggregate grains;
- Approximate ratio in percentage between large aggregate and mortar part;
- The presence of cracks and other defects in the mortar part, coarse aggregate or at the contact between them;
- The nature of concrete tearing (for coarse aggregate, contact between the coarse aggregate and the mortar part, mixed);
- Presence of ash and salt crystals in concrete pores;
- The depth of neutralization of concrete by phenolphthalein test.

If it is possible to extract at least a small amount of cores from the inspected structures (3-5), it is recommended to evaluate the strength of concrete by ultrasonic testing.

Having measured the speed of propagation of ultrasound in several areas of the examined structures, cores are extracted from those places where the speed of propagation of ultrasonic waves is greatest. Having then determined the strength of concrete in cores and taking it as a standard (reference sample), the strength of concrete R in other areas according to ultrasonic test data is calculated by the formula:

$$R = R_{sup} (1 - \Delta V / V_{sup}) / (1 + 7,87 \Delta V / V_{sup}) \quad (4)$$

Where: R_{sup} - the strength of the concrete of the reference sample (core); ΔV - the difference between the velocities of propagation of ultrasonic waves in the reference sample V_{sup} and at the measured point.

Sample preparation and mechanical tests of cores are carried out in accordance with the Recommendations for assessing the quality of concrete in hydraulic structures using cores.

Testing the strength of concrete by various methods is performed as follows. The location for joint tests is selected by the basic and indirect, for example, the ultrasonic method (calibration tests). To do this, first, concrete tests are performed in several areas by an indirect method. Areas where the coefficient of uniformity of concrete strength (the ratio of the standard deviation of concrete strength to average strength) is the smallest are recognized as suitable for carrying out calibration tests. In all cases, he should not be St. 25%.

Tests are carried out using basic and ultrasonic methods. The number of tests should not be less than 10.

To assess the results of calibration tests, the significance of the difference in the average strength values determined by the basic and indirect methods is compared. To do this, determine the value:

$$U = 2 \cdot |R_{bb} - R_{md}| / (\omega_{bb} + \omega_{md}) \quad (5)$$

Where: $|R_{bb} - R_{md}|$ - the modulus of the difference between the average values of strength, determined by the basic and indirect methods; ω_{bb}, ω_{md} - range (the difference between the largest and the smallest values for the basic and indirect methods).

If the value $U < U_t$ (Table 1), then the difference in the value of the average strengths is considered insignificant, and the methods for determining the strength are compatible;

TABLE 1.

Sample size	4	6	8	10	12	14	16	18	20
Critical value U_t	0,831	0,499	0,371	0,304	0,260	0,247	0,228	0,225	0,172

If the indirect method is found to be suitable, the correlation coefficient is calculated between the strength values determined by the basic and indirect methods. Then the concrete strength is determined by an indirect method on the entire volume of the examined structures. The number of measurements - at least 30 in each of the selected zones, depending on the state of the element and operating conditions. In this case, the total volume of tests by the indirect method in each zone is taken as the volume of the controlled batch, and the volume of tests by the basic method is taken as the sample size.

The value of the cube compressive strength of concrete according to the test results for each of the selected zones is determined as the weighted average for each of the methods with weight P_{bb} and P_{ind} :

$$R = \frac{R_{bb} \cdot S_{ind}^2 n_{bb} + R_{ind} S_{bb}^2 n_{ind}}{n_{ind} S_{bb}^2 + S_{ind}^2 n_{bb}} \quad (6)$$

Where: S_{ind}^2, S_{bb}^2 - variance of indirect and base methods;

$$S_{bb}^2 = \sum_{i=1}^n (R_i - \bar{R})^2 / (n-1) \quad (7)$$

Where: n - number of baseline strength determinations; \bar{R} - average value of strength when measured; R_i - the results of a single (i-th) determination of strength. The value is S_{ind}^2 determined in the same.

In cases where the difference between the concrete strength indicators, determined by the shear-off method and the indirect method, is greater than permissible according to the formula, the values of the concrete strength in the area where the non-destructive testing was carried out are determined by the formula:

$$R = R_{ind} k_i \quad (8)$$

where: R - concrete strength; R_{ind} - concrete strength, determined by ultrasonic method; k_i - the coefficient of coincidence, determined by the formula:

$$k_i = m \sum_1^n R_{bb} / n \sum_1^m R_{ind} \quad (9)$$

To check the actual reinforcement and the thickness of the protective layer of concrete, use magnetic methods or methods of transillumination and ionizing radiation with a control check of the results obtained. It is carried out by punching furrows and direct measurements. Of the domestic devices, usually used are meters of the protective layer of the IZS type, in particular IZS-10N, TU 25-06.18-85.79. The measurement range of the protective layer thickness is 5-30 mm with a reinforcement diameter of 4-10 mm and 10-50 mm - at 12-32 mm.

When the distance between the reinforcement rods is less than 60 mm, the use of IZS-type devices is.

The assignment of non-stressed bar reinforcement to one class or another is preliminarily carried out in appearance: smooth reinforcement - class A-I, reinforcement of periodic profile with protrusions along a helical line - A-II; with herringbone protrusions - A-III and higher; smooth flattened in two mutually perpendicular directions - St3, hardened by cold flattening. Another profile of the rods indicates the use of foreign-made reinforcement. In this case, the class of reinforcement is set according to foreign standards. If the design of the bar is difficult to determine due to significant surface corrosion, it is recommended to open the reinforcement in an area with less pronounced corrosion.

In the process of examinations, the depth of the neutralized concrete layer is determined by a colorimetric method based on the change in the color of organic indicators depending on the pH

value. The assessment is carried out by treating a fresh concrete chip with pH indicators. 1% alcoholic solution of phenolphthalein changes color from colorless (pH = 9.3) to crimson (pH = 10.5); 0.1% aqueous solution of alizarin red - from yellow (pH = 10.1) to lemon (pH = 12.1).

A minute after the application of the indicator solution, measure the depth of concrete neutralization with a ruler with an accuracy of 1 mm.

The depth of penetration of chlorine ions is determined by wetting a fresh fracture of concrete with a 1% solution of silver nitrate. Turbidity of the solution indicates the presence of chlorine ions in the concrete (more than 0.3% of the mass of cement).

The depth of destruction of concrete under the influence of liquid acidic media is determined by removing the corroded layer with a sharp tool.

The degree of corrosion of the reinforcement is assessed by the nature of the corrosion products (solid, pitting, spots, thin coating, layered, color and density), the area of surface damage (as a percentage of the total exposed surface) and the depth of corrosion damage. The latter is determined with relatively uniform corrosion by the difference (average) of the design and actual diameters of the reinforcement, divided by 2; in case of pitting corrosion, the depth of the ulcers is measured with an indicator needle. If the surface of the shaft is lined with a large number of ulcers, the initial position of the indicator hand can be set using a calibrated plate (such as a safety razor blade) placed on the sample surface.

For a quantitative assessment of the size of corrosion of the reinforcement, the reinforcement is opened in 10 structures of the same type, at least in the most corroded sections with a length of 1 m. At each of such sections, the retained diameter of the reinforcement is measured in three places after removing the corrosion products of steel mechanically, for example, using an emery wheel, until a smooth, shiny steel surface is obtained.

Opening of prestressed reinforcement (outside the anchorage zone) can be allowed if the operational loads have extinguished or significantly weakened the concrete compression forces created by prestressing, which, in particular, may be evidenced by the appearance of transverse cracks in the area of the prestressed reinforcement or element deflection, and also after the implementation of the appropriate safety measures.

UKB-1m device: Measures the speed of propagation of an acoustic pulse, the change in its energy and frequency-amplitude spectrum. The accuracy of measuring the amplitude of the pulses depends on the reliability of the acoustic contacts of the probes of the device and concrete, therefore, along with the attenuation coefficient, the nature of the reverberation process in the section of the element is also determined. When inspecting massive reinforced concrete structures at low frequencies (20-150 kHz), the sensitivity of the devices is low. However, some specific defects and damage caused by poor-quality concrete placement, exposure to high and low temperatures, corrosion, are easily detected.

The areas of the damaged layer are shown by the fracture of the longitudinal hodograph line (Fig. 2). The thickness of the modified surface layer is found by the formula:

$$t_d = 0,5l_a \sqrt{(V_1 - V_2) \cdot (V_1 + V_2)} \quad (10)$$

Where: l_a - is the distance from the emitting transducer to the breakpoint of the hodograph; V_1 and V_2 - respectively, the speed of ultrasound in undamaged and damaged concrete layers.

CONCLUSION

Cracks, cavities, areas of weakened concrete, as well as the thickness of the protective layer, the size and location of reinforcement in structures can be identified using radiation flaw detection. When using special methods of registration of radiation, it is possible to determine the particle size distribution and the content of individual fractions of the aggregate. X-ray devices, gamma devices with radioactive sources and electron accelerators (betatrons), which emit bremsstrahlung radiation, are used to transilluminate reinforced concrete elements. The maximum thickness of structures available for radiation flaw detection is 200-250 mm for X-ray machines, 300-500 mm for radioactive radiation sources, and 2 m for betatrons..[1-14]

When translucent structures with a thickness of 0.2-1 m can be detected reinforcement with a diameter of 3 mm or more. Shells and voids are found when their size is equal to 3-5% of the thickness of the element. Cracks are fixed if they do not deviate from the direction of transmission by an angle of more than 5-7%.

The density of concrete in structures is determined using radiometric densitometers of various types by direct (through) transmission or diffuse measurement. The first method m_v is used with a structure thickness of up to 50 cm and free access to opposite sides of the structure. In the first method, it is determined by the weakening of the flow - rays passing through the concrete, in the second - by the scattering of γ -radiation. The moisture content of the tested concrete should not differ from the moisture content of concrete, according to the tests of which the device was calibrated by more than + 5%.

The number of measurements should be at least two per 1 m² of area and at least eight per structure.

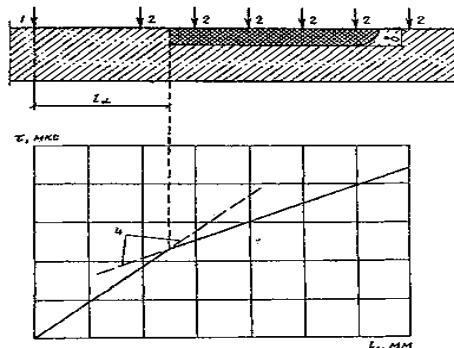


Fig. 2. Determination of defects and damage to concrete by ultrasonic longitudinal profiling

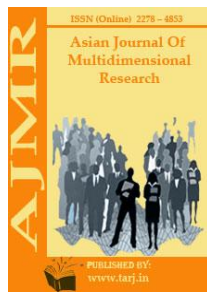
1, 2 - installation zones of the emitter and receiver; 3 - area of damaged concrete structure; 4 - fracture of the hodograph line in the area of damaged concrete

On the basis of concrete tests by ultrasonic and radioisotope methods, the dimensions and depth of defects and damages, in particular cracks, are specified, and, if necessary, additional control clearing is carried out.

These data are given in the conclusion about the tests carried out and are used in the analysis of the results of determining the strength of concrete by various methods. They are also taken into account when choosing places for sampling concrete for laboratory research.

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METHODOLOGY FOR ASSESSING THE ECONOMIC EFFICIENCY OF INNOVATION ACTIVITIES

Tarakhtieva Gulmira Kulbaevna*

*Senior Lecturer,
Tashkent State Technical University,
UZBEKISTAN

ABSTRACT

In this article, the method of assessing the economic efficiency of the innovation activity of industrial enterprises, the norms and indicators of assessing economic efficiency, determining the impact of innovation activity on the efficiency of the industrial enterprise and selecting effective methods of eliminating the existing problems were discussed.

KEYWORDS: *Innovative Activity, Methodology For Assessing Economic Efficiency, Criteria, Indicators, Effective Methods.*

INTRODUCTION

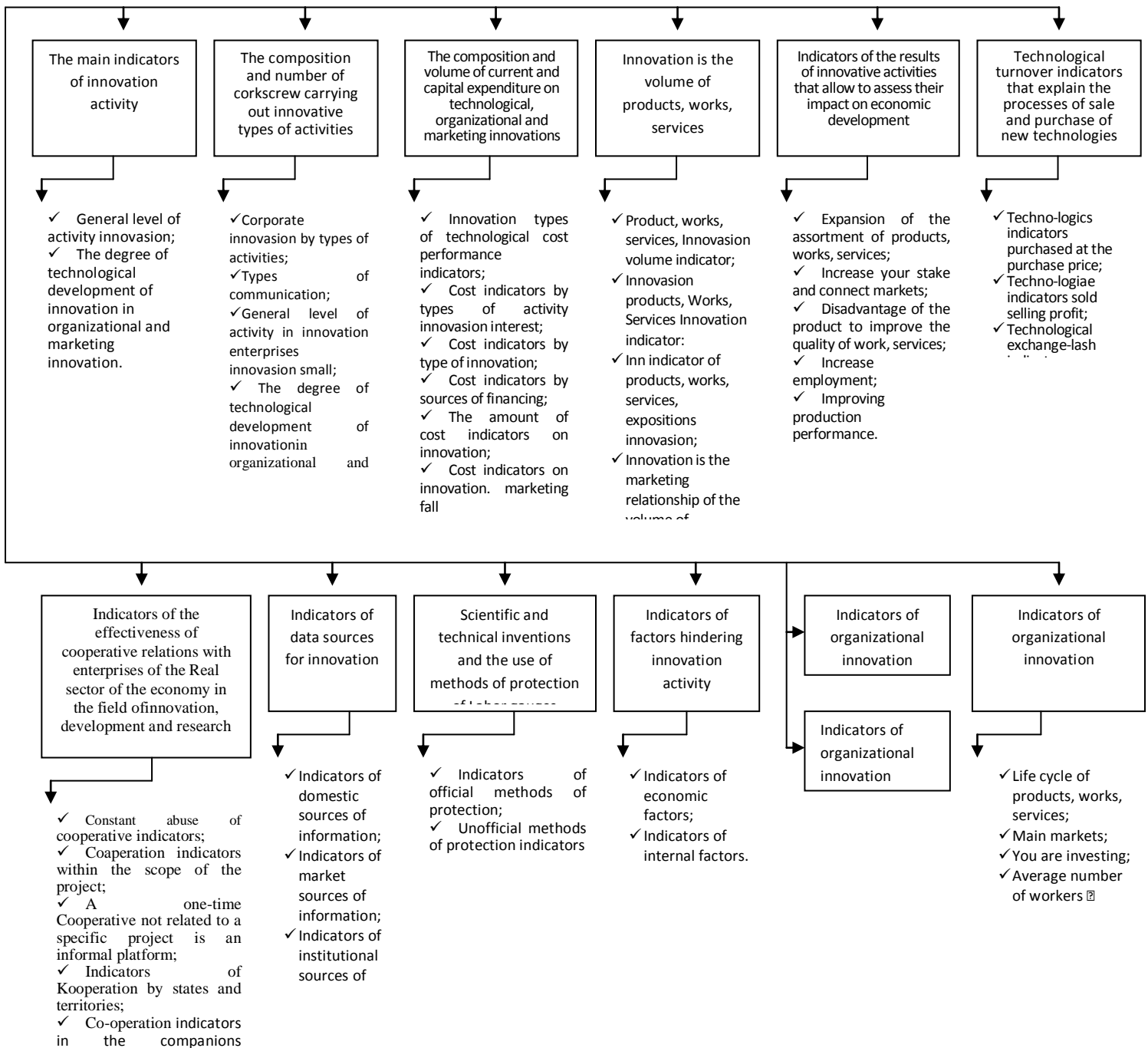
In the sustainable development of the country's economy, it is important to increase the effectiveness of the activities of industrial sectors and ensure high economic growth. It is known that the development of innovative activity in all sectors ensures the smooth exit of the country's economy from a state of crisis, and also creates a strategic basis for the country's economy.

It is impossible to imagine creating a competitive product with high added value, without the introduction of new, modern approaches in the economy. In this regard, we can give an example of the actions that are being taken step by step with the initiatives of our esteemed president in our country. The cluster can be described as “progress that revolves in a single chain.”

The creation of the first experimental industrial cluster was aimed at:

- further deepening of structural changes and reducing the state's participation in production activities;
- to encourage the attraction of foreign investment to create an integrated cluster system for the development of networks in an innovative way;
- to introduce effective methods of production of products and organize their in-depth processing.

In the formation of the cluster of the oil and gas industry, work is carried out on the basis of the categories of proportionality and coordination of the economy. If proportionality affects the parallel development of the network with the establishment of comprehensive relations, compliance plays a leading role in increasing the economic stability and competitiveness of networks. Taking into account the fact that enterprises that carry out types of innovative activities can belong to different sectors, it is important to use the activities of cooperative enterprises in the organization of their activities. Proceeding from the above, it is possible to systematize in the form presented in Figure 1, summarizing the indicators of the effectiveness of innovative activity.



1-picture. The main indicators of the effectiveness of innovation activities

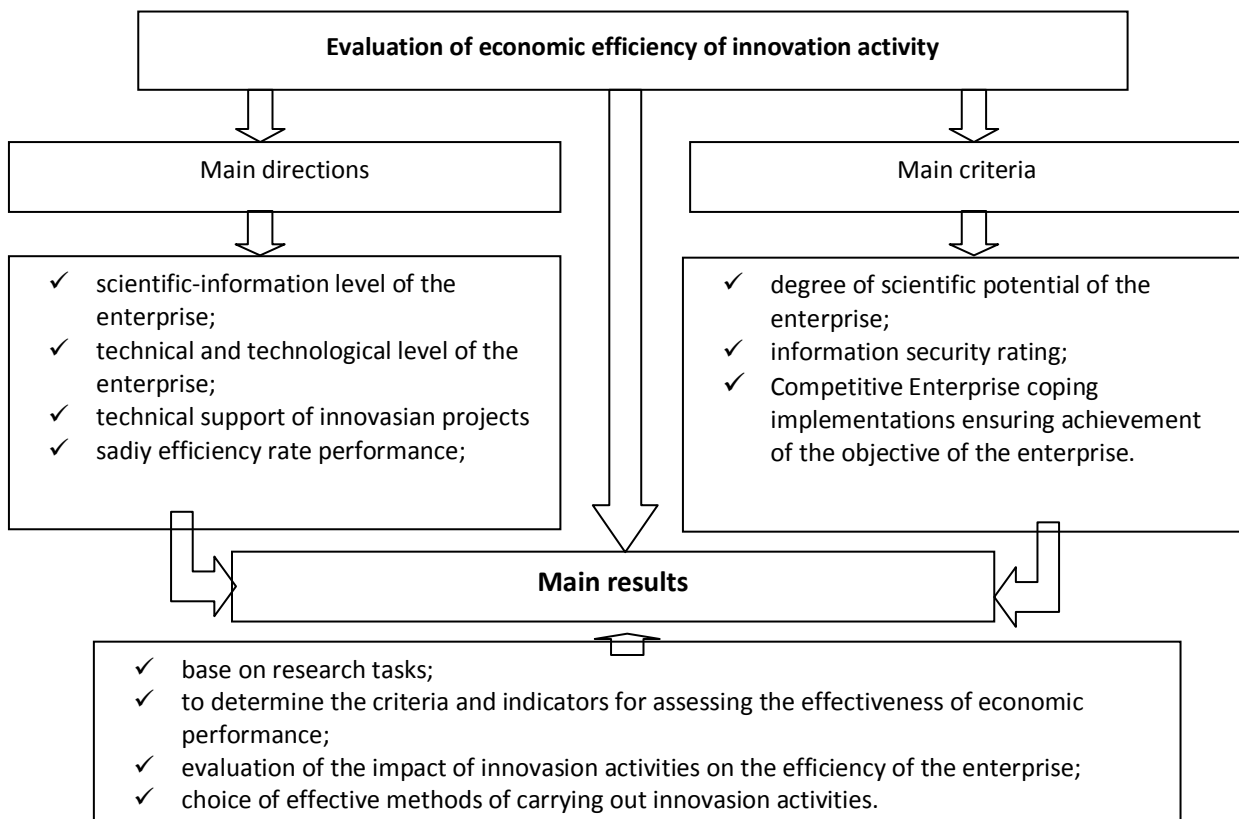
Source: developed on the basis of author's research.

For each innovation cluster, the demand for the efficiency and efficient use of scientific and technical inventions and works is also considered one of the main features. In the field of innovation, developments and research, the effectiveness of cooperative relations with enterprises of the real sector of the economy consists of innovative results that allow to assess the impact on economic development.

Explaining the processes of sale and purchase of new technologies in the effective conduct of innovative activities, the technological turnover activity requires the development of technoparks, in addition to the fact that it manifests itself as a technological investment.

The organizational aspect of innovation is seen as both the initial and the final part of every innovation management. Increasing the viability cycle of products and services, occupying key markets, expanding investment activity and increasing employment of the population are important factors of innovative activity. Accordingly, the methodology for assessing the economic efficiency of innovation activities of industrial enterprises is aimed at solving the following issues (Figure 2): justification of research tasks; determination of norms and indicators for assessing economic efficiency; to evaluate the impact of innovation activity on the efficiency of an industrial enterprise and to choose effective methods of its implementation.

2-picture. The essence of assessing the economic efficiency of innovation activities of industrial enterprises



Source: developed on the basis of author's research.

The norms for assessing the innovative activity of industrial enterprises are as follows: the level of scientific potential of an industrial enterprise; the level of availability of information and science achievements; competitive developments that ensure the achievement of the purpose of an industrial enterprise. Proceeding from the above, taking into account the specifics of the oil and gas industry (capital, stock and labor capacity), which is considered an object of research, in our opinion, industrial enterprises can be classified into three norms that represent the scientific potential of the enterprise, the degree of modernization and labor productivity of the enterprise, as well as the degree of competitiveness of the

Classification of indicators for assessing the economic efficiency of innovation activities of industrial enterprises .

The level of scientific potential of the enterprise.

Degree of modernization and labor productivity.

Product competitiveness rate.

The level of innovation development.

The level of scientific potential of industrial enterprises interprets the introduction into the production of the results of research work. The level of scientific potential of enterprises in Bunda can be determined in view of the ratio of innovative operating costs to total production costs. It is expressed as follows:

$$k_{Is} = \frac{X_{If}}{JX_{Ich}} \quad (1.1)$$

here: k_{Is} - the coefficient of the degree of scientific potential;

X_{If} - the cost of innovation activity costs, million soums;

JX_{Ich} - total production costs, million soums.

If necessary, this indicator can be used to assess the capacity of the enterprise among competing enterprises. The innovation potential of the enterprise is determined depending on the level of indicators by Types.

Industrial enterprises will have the appearance of the following expression of innovation activity:

$$k_{O'zIshJq} = \frac{M_{JqO'zIsh}}{JM_{AoO'zIsh}} \quad (1.2)$$

here, $k_{O'zIshJq}$ - coefficients of introduction of own research works;

$M_{JqO'zIsh}$ - the amount of its own developments, the number of which is introduced;

$JM_{AoO'zIsh}$ - total amount of own developments, number of carried out.

This indicator can be used to substantiate and evaluate the scientific level of innovation activity

of industrial enterprises. Industrial enterprises can use the ratio of their work to the total amount of research developments that have been introduced in order to evaluate the innovative activity and determine the rational connection between the purchased and their research developments. It is expressed as follows:

$$k_{O'zIshTq} = \frac{M_{JqO'zIsh}}{JM_{JqIsh}} \quad (1.3)$$

here, $k_{O'zIshTq}$ - coefficient of application of results of own research developments;

$M_{JqO'zIsh}$ - the amount of its own developments, the number of which is introduced;

JM_{JqIsh} - total number of developments, which are introduced.

With the help of the indicator $k_{O'zIshTq}$ the coefficient of implementation of the results of their own research developments, one can think about the pace and level of development of research in enterprises. If the high value of this coefficient approaches together, the innovation activity of the industrial enterprise will be high. On the contrary, the fact that the coefficient is lower than 0.5 indicates a low activity of the enterprise in the development and introduction of innovations.

Modernization, rapid implementation of technical and technological re-equipment processes in industrial enterprises is an important factor of sustainable development of each enterprise. This factor determines the level of renewal of equipment and technology in the enterprise. A high indicator of the coefficient of renewal of equipment and technology interprets the intensity of the processes of replacement and modernization of the main production facilities in the enterprise, which is expressed in the following form::

$$k_{Tty} = \frac{Q_{ytt}}{Q_{tt}} \quad (1.4)$$

here, k_{Tty} - the coefficient of renewal of techniques and technologies;

Q_{ytt} - the cost of new techniques and technologies launched in the current year, mln.so ' m;

Q_{tt} - total cost of equipment and technology, million soums.

In any manufacturing process, there is a gradual depreciation of equipment and technology and the initial value is lost. This situation is determined by the coefficient of depreciation of equipment and technology, which is expressed as follows:

$$k_{Tte} = \frac{Q_{tte}}{Q_{ttb}} \quad (1.5)$$

here, k_{Tte} - coefficient of depreciation of equipment and technology;

Q_{te} - the cost of wear and tear of equipment and technology, million soums;

Q_{te} - the initial value of technology and technology, million soums.

The main norm for the modernization, technical and technological re-equipment of enterprises in qualitative terms, is the effective utilization of these basic tools, which is determined by the return coefficient of the fund. The increase in the coefficient indicates a higher level of production compared to the basic means by which a unit is placed. Coefficient has the following appearance:

$$k_{Fq} = \frac{Q_{ichm}}{Q_{aichf}} \quad (1.6)$$

here, k_{Fq} - stock return coefficient;

Q_{aichf} - the initial value of the main production funds, million soums;

Q_{ichm} - the volume of products produced, mln.sum.

The indicator, which determines the level of technical and technological equipment of an industrial enterprise, is the coefficient of armament with the stock - the value of the main input funds corresponding to this one worker. It is determined by the following expression:

$$k_{Fbq} = \frac{Q_{aichf}}{S_i} \quad (1.7)$$

here, k_{Fbq} - coefficient of armament with the fund;

Q_{aichf} - the initial value of the main production funds, million soums;

S_i - number of workers, Man.

It is known that the indicator of labor productivity plays an important role in determining the economic efficiency of large industrial enterprises. The main factors that affect the growth of labor productivity are the state of techniques and technologies that improve the organization of production, as well as ensure reliable and sustainable production. Labor productivity has the following appearance:

$$k_{Mu} = \frac{Q_{ichm}}{S_i} \quad (1.8)$$

here, k_{Mu} - labor productivity coefficient;

Q_{ichm} - the volume of products produced, million soums;

S_i - number of workers, Man.

The indicators of the level of competitiveness of the product can be divided into the competitiveness of the following Enterprise Products and the renewal coefficient of the products.

The coefficient of competitiveness of the product can be determined by the following expression:

$$k_{mr} = \frac{Q_{tym} - Q_{tpm}}{Q_{tym}} \quad (1.9)$$

here, k_{mr} - product competitiveness coefficient;

Q_{tym} - the volume of products going on in high demand, million soums;

Q_{tpm} - volume of products going on low in demand, million soums.

The closer the product competitiveness coefficient k_{mr} is together, the higher the product competitiveness. If the coefficient is close to zero, this means that the product is not competitive. The higher the competitive coefficient at the same time, the higher the demand for the product will also be, and the lower the losses, respectively, on account of the natural and physical depreciation of the product.

The update coefficient of the product can be expressed as follows:

$$k_{my} = \frac{Q_{tym}}{Q_{Ishym}} \quad (1.10)$$

here, k_{my} - product update coefficient;

Q_{Ishym} - the volume of newly produced products, mln.so ' m.

This indicator is directly related to the innovation activity of the enterprise. A new product can be considered as a result of research, completely new, modernized or radically changed. Alternatively, the new product is generally considered to be less cost-effective in a competitive and fast-selling. This leads to an increase in the efficiency of the production of products and the functioning of the enterprise as a whole.

Coefficient of development of new products - this indicator determines the ability of the enterprise to provide the most recent or technologically changed products, and for it the following formula is used:

$$k_{yo'zl} = \frac{Rt.m.}{Rr.} \quad (1.11),$$

here $k_{yo'zl}$ - if the coefficient of mastering new products, $Rt.m.$ -of revenue from the sale of new products and products made with the help of innovative technologies $Rr.$ -all products are quoted to be determined by the ratio of revenue received from sales.

The recommended value of the coefficient should be from 0,40 to 0,50, which takes an important place in the choice of the strategy of the enterprise: $K \geq 0,45$ to 0,50 the leadership strategy of

the organization is expressed in $K \leq 0,45$ to $0,40$, while $K \leq 0,45$ proves the activity of the mastering strategy. The level of innovation development. The coefficient of innovation development - indicates stable technological growth and industrial development, and indicates the development of the enterprise in the field of innovative project management, i.e.:

$$k_{inn.o'zl} = \frac{P_{inv.loj.}}{C_{inv.xar.}} \text{ is calculated on the basis of} \quad (1.12)$$

here, $k_{inn.o'zl}$ - coefficient of development of innovative products;

$P_{inv.loj.}$ - value of research and education investment projects;

$C_{inv.xar.}$ - in the case of the total value of other investment costs, in the total volume of all investments made, the company determines the share of funds that it allocates for the development and training of innovative technologies. The recommended value of the coefficient should be from $0,50$ to $0,60$, the choice of strategy depends on it.

The provision of human resources with the achievement of scientific research work and science-serves in determining the coefficient of personnel engaged in research and development activities, and its determination is in accordance with the following procedure:

$$k_{t.ish.h.} = \frac{Lt.ish.}{Wish.h.} \quad (1.13)$$

here, $k_{t.ish.h.}$ - the coefficients of employees used in the study and study;

$Lt.ish$ - number of people employed in the field of research and development;

$Wish.h.$ - average number of employees.

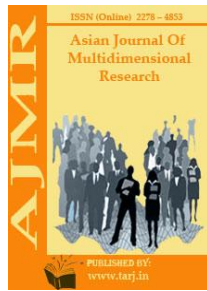
This ratio determines the composition of the employees of the enterprise, that is, it shows the proportion of employees of the organization who directly participate in the development of new products and technologies used, production and engineering design, which can be implemented in the enterprise in the near future. His area of determination is the direction to the choice of strategy: $K \geq 0,20$ to $0,25$ - the company chooses the leadership strategy; $K 0,20$ to $0,15$ - the company chooses the strategy of mastering.

The above factors play an important role in determining the potential for innovation directly. In this direction, scientists of Uzbek economists conducted research on increasing and assessing the innovative potential of industrial enterprises.

The achievement of innovative activity and high level of production efficiency in industrial enterprises makes it possible for the enterprise to be economically and financially strong and to operate steadily in the conditions of crisis. Operational analysis in determining the innovation potential of the enterprise serves as the norm for decision-making and evaluation of the formation of the infrastructure of the innovation cluster. Innovation activities of oil and gas industry enterprises can be carried out taking into account their specific features (capital, fund and labor capacity), taking into account the scientific potential of the enterprise, the degree of modernization and labor productivity of the enterprise, as well as three norms that represent the competitiveness of the product.

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DIGITALIZATION - OPPORTUNITY FOR MANAGEMENT DEVELOPMENT IN AN INDUSTRIAL FACTORY

Mirsaidova Shaxnoza Areslonbekovna*

*Senior Lecturer,
Tashkent State Technical University named after Islam Karimov,
UZBEKISTAN

ABSTRACT

The article deals with the development of science, education and the digital economy. Bringing the national economy to a new, digital stage of development. Tasks for the development of the digital economy in Uzbekistan. Issues facing managers. The role and principles of company management in the digital economy.

KEYWORDS: *National Economy, Digital Economy, Management, Information And Communication Technologies, Smart Companies.*

INTRODUCTION

2020 was declared in Uzbekistan as the Year of Science, Education and Digital Economy Development. This gave an impetus to bring the national economy to a new, digital stage of development. The main task of the development of the digital economy in Uzbekistan was to increase its share in the country's gross domestic product by 2 times by 2023, including through the introduction of a complex of information systems in production management, the widespread use of software products in reporting in financial and economic activities, as well as automation of technological processes.

In the digital economy, managers face new challenges, their role and the principles of company management are changing. In particular, they are faced with the question of which technologies and principles of the digital economy need to be implemented?

The solution of numerous tasks related to planning, forecasting, analysis and modeling of production processes requires the accelerated development of digitalization.

According to the Decree of the President of the Republic of Uzbekistan dated March 2, 2020 No.UP-5953, the development of a draft program "Digital Uzbekistan - 2030" was provided. At the same time, do not forget that the basis of the digitalization process in the modern world is the Internet and data transmission on the global web is carried out through various gadgets.

The draft presidential decree “On the approval of the Concept of the national strategy“ Digital Uzbekistan 2030 ”provides studies according to which more than 67 percent (22.5 million users) of the population of Uzbekistan have access to the global network. At the same time, the number of third and fourth generation mobile communication users exceeded 16 million subscribers.

In particular, in 2020, more than 800 thousand broadband Internet ports and 12 thousand kilometers of fiber-optic communication lines were created.

Within the framework of telecommunication network development projects, 6.5 thousand kilometers of fiber-optic communication lines were laid to the planned facilities.

The next important step towards digitalization is the creation of IT-Park. The Technopark was created in accordance with the decree of the Cabinet of Ministers "On measures to create a Technological Park of software products and information technologies" dated January 10, 2019.

IT-Park is a unique place where active and gifted people in the ICT field get a real chance to transform ideas into real business projects through accounting, legal, marketing and educational support.

Considering the problem areas in the field of management in the new conditions, we will analyze international standards and bodies of knowledge that are directly related to the organization of the management process.

In companies in the context of society's transition to a new economic order associated with universal digitalization, new approaches to the management of companies are required, and therefore, is a challenge for top managers.

Managers are faced with a number of questions, such as:

- How exactly to run an enterprise in the 21st century?
- Is it necessary for managers and company owners to implement
 - Elements of the digital economy in your production and sale of finished products?
- Is the consumer ready for changes in the market?
- How to balance the use of new technologies and
 - Hired personnel?
- What risks can new technologies pose for managers?

Currently, the development programs of many companies mainly describe technological development, which corresponds to the concept of the Industry. At the same time, the digital economy is a broader concept.

Professor of the Russian Academy of Sciences, Vice-Rector for Research and Innovation of the Tomsk State University of Control Systems and Radioelectronics R. Meshcheryakov believes that there are two approaches to the term “digital economy”.

- The first approach is "classic": the digital economy is an economy based on digital technologies, and at the same time it is more correct to characterize exclusively the area of electronic goods and services. Classic examples are telemedicine, distance learning, the sale of media content (movies, TV, books, etc.).

- The second approach is an extended one: “the digital economy is an economic production using digital technologies”. Most of the external and internal communications between economic entities (people, companies, the state) in the digital economy are carried out using digital technologies in an online environment.

The following definition is also given: the digital economy is “a set of activities based on digital technologies, as well as the infrastructure that ensures the functioning of digital technologies. In this case, digital technologies should be understood as technologies associated with the creation, collection, processing, storage and transmission of information based on digital systems. ”

Some researchers note that within the framework of these economic conditions, business models and the model of generating added value are undergoing a transformation, while the importance of an individual approach to the formation of products is increasing.

Also, in foreign literature, one can come across the following definition of the digital economy: a worldwide network of economic activity, commercial transactions and professional interactions that are provided by information and communication technologies (ICT).

The digital transformation of a company entails a change in its structure, management system and culture. In these conditions, managers face new tasks, their role and principles of company management are changing.

For example, some of the functions related to data management in the company, which were traditionally related to IT, are transferred to top management.

However, in the digital economy, data becomes one of the company's assets, and in some cases the only one (for example, Uber). In this regard, the range of processes and functions that data management covers is expanding.

One of the important contradictions of the digital age is the following: on the one hand, managers are obliged to create new jobs, thereby fulfilling the social responsibility of business to the state and the population. On the other hand, managers must implement advanced manufacturing technologies that allow the enterprise to save important resources. If a manager does not implement advanced technologies, then he exposes the company to a huge risk, namely, there is a risk of a technological backwardness of the company and its further closure. However, with the high introduction of robotization, there is a possibility of a reduction in employees and an increase in unemployment (primarily among workers with low qualifications), which, in turn, can lead to an increase in social protests and discontent among the population.

In addition, managers themselves run the risk of losing their jobs due to the fact that most of the processes will be carried out automatically. The coordination of processes will take place in real time, which means that many managers will simply become redundant due to the high digitalization of processes. That is why the managers of the XXI century face a very difficult task of maintaining a balance between technological innovations, including the robotization of production and, as a consequence, the creation of “smart factories”, and employees.

It is worth noting that there is a completely opposite point of view, which is based on the judgment that with the introduction of robotization in production, production capacity will increase and there will be an economy of strategically important resources at the enterprise. At the same time, workers will be able to undergo retraining, will not lose their jobs, and will

become more flexible and mobile. As an example, supporters of this theory cite the implementation of the IC: Accounting program.

At the very beginning of its implementation, many accountants were convinced that it would ruin their profession and lead to a sharp reduction in local accountants. However, this was not observed. In addition, the mobility of the accountants themselves has increased. Opportunities for additional earnings from accounting for small entrepreneurs opened up before them, and entrepreneurs can now afford, depending on the size of the enterprise, not to keep an accountant on a permanent basis.

A similar example can be found with Uber, which revolutionized passenger transportation. At the same time, initially, the company's idea was considered a sabotage for the industry, since it would have to dismiss all taxi operators, reduce the number of working taxi drivers (this judgment was based on the fact that the mobility of taxi drivers would increase, but the demand would remain the same, which would lead to an inevitable reduction), price dumping in the industry (this would lead to a reduction in the net profit of enterprises). Over time, it turned out that there was no need to fire taxi drivers and operators, and the demand for taxis and the company's net profit increased. At the same time, the mobile taxi application made it possible to attract new taxi drivers, for whom the transportation of passengers is an additional income in their free time from their main work.

It should be noted that corporate practice also knows unsuccessful examples of world-renowned companies that unconditionally used only one technology to develop their business.

A prime example is the Kodak company, which did not want to develop digital photography, because I truly believed in the long-term success of analog photography. Because of this, the company did not develop other areas of activity, which subsequently led to its bankruptcy.

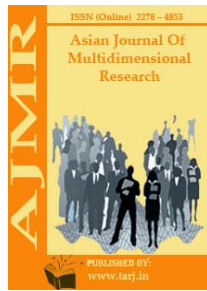
In addition, as previously noted, until now, global organizations have not developed a unified approach to the application, management and determination of the boundaries of the use of digital technologies, which forces many managers to act blindly with an absolute lack of guidelines for the application of new technologies. In other words, managers cannot guarantee 100% digital impact due to the lack of rules and standards that would help managers understand the potential of today's technology.

Thus, at present, managers need to find new standards, bodies of knowledge and frameworks, (software products that simplify the creation and support of technically complex or loaded projects. The framework, as a rule, contains only basic software modules, and all project-specific components are implemented developer based on them.), helping to build successful strategies for managing a company in the digital economy.

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A STUD OF INFLUENCE OF SOWING TIME, SEED AND MINERAL FERTILIZER RATES ON TRITICALE “SARDOR” VARIETY PRODUCTIVITY INDICATORS

Bakhtiyor Sadullaevich Kushmatov*; **Bakhodir Meylikovich Kholikov****

PhD Student,
Research Institute of Rainfed Agriculture,
UZBEKISTAN

*Professor,
Doctor of Agricultural Sciences,
Cotton Selection and Cultivation Agrotechnology,
Research Institute, UZBEKISTAN

ABSTRACT

This article examines the timing of sowing of newly created fodder crops on the productivity of triticale “Sardor” variety, the effect of seeds and mineral fertilizers in the conditions of typical dry gray soils of the semi-arid plains of the Jizzakh region. Based on the results of the three-year study, an appropriate planting time, planting rate and optimal fertilizer feeding rate for the region were developed and recommended for production.

KEYWORDS: Triticale, grain, 1000 grain weight, spike, spike length, number of grains in spike, yield, productive stem, mineral fertilizer, term, norm, seed, fertilization.

INTRODUCTION

The production of triticale in the countries of the world has exceeded 20 million tons per year, and most of it falls on Germany and Poland. The triticale crop is used today in 3 main directions as bread, fodder and green fodder. The use of triticale instead of wheat, which is used for fodder in livestock and poultry, is important in ensuring food security of the population. Triticale is a new food and fodder crop spreading in Uzbekistan. It is a high-yielding, grain-resistant cereal crop resistant to diseases and pests, dormancy and other adverse environmental conditions.

Triticale is a promising fodder crop, which is used today in 3 main areas as bread making, fodder and green fodder. Grain is a unique component in the preparation of mixed fodder. It is recommended to replace triticale grains with 50% of the usual feed (wheat, barley, etc.) in the

diet of livestock and poultry. Triticale grain shows its good nutritional benefits when given together with barley [29-p].

Cultivation of triticale on arable lands gives good results in increasing the income of farms, providing the food industry with cheap and protein-rich raw materials, livestock and poultry with quality feed [30-p].

Triticale is also widely used in the production of alcohol, starch and malt.

D.J.Ayrapetov, B.Djumakhanov, Tashkent State Agrarian University, U.D.Bobatova and others at the I.V.Massino, A.I.Massino and Research Institute of Botany of Uzbekistan at the RI Corn Research and Experimental Station of Grain and Legumes for triticale on irrigated lands in Uzbekistan, Cereals and legumes in arable lands are being studied by H.Adilov (2005) and K.Isakov at the ITI Gallaorol scientific experimental station.

At present, Gallaorol Scientific Experimental Station has developed triticale varieties “Sardor” and “Dustlik” on dry lands, and primary seed production is carried out in a complete system.

THE MAIN FINDINGS AND RESULTS

The task of our research is: Development of agrotechnology of the newly created triticale variety “Sardor”.

Research methods: Basic periods in phenological observations in the field under the method of International Classifier (SEV Triticum type, 1984) developed by the Russian Institute of Botany, biometric measurements by the method of the State Variety Testing Commission of Agricultural Crops (1989) , Tashkent, 2007.

The study was conducted in 2019-2021 at the central experimental plot of Rainfed Agricultural Research Institute of Gallaaral district of Jizzakh region. The soils of the experimental field are typical gray soils, the agorochemical composition of the soil is 1.313-0.128% of humus, 0.112-0.143% of total nitrogen, 0.293-0.220% of phosphorus and 2.01-1.83% of potassium.

Field experiments were carried out in 2 autumn-1 (1-10.11), 2 spring (2-02.28) periods, 3 sowing norms at the rate of 2.5 million, 3.0 million and 3.5 million germinated seeds and 4 fertilizer norms. , 1 control was studied by planting in a total of 30 variants.

The optimal timing of sowing of autumn grain in the arable lands of Jizzakh region varies: in the plains in the first ten days of November, in the foothills in the second half of October, and in the foothills and mountainous areas in the first ten days of October [p. 14].

When triticale is planted at optimal times, it maximizes grain yield and also increases the level of profitability in production [p. 18].

In our research, the productivity of the triticale variety “Sardor” was studied. Productivity indicators are indicators of the productivity of these cereal crops.

In his experiments, A.V. Pominov found a strong correlation between the yield elements of triticale, the length of the spike, the number of spikes per spike, the number of grains per spike and the weight of 1000 grains [p. 29].

Results and discussions. According to the results of three years of experiments, when sowing triticale in the autumn period 1-10.11, the sowing rate was 2.5 million seeds (without fertilizer). weight 0.8 g, number of productive stems per 1 m² 180 pieces, 1000 grain weight 33.5 g, mineral

fertilizers P₃₀ K₃₀ (Fon), (Fon) N₃₀, (Fon) N₄₀, (Fon) N₅₀ kg / applied 2, In variants 3,4 and 5, the average length of the stalk is 9.9-10.9 cm, the number of grains in the stalk is 19.2-22.3, the average weight of 1 stalk is 0.8-0.9 g, the number of productive stalks per 1 m² is 181 -207 grains, 1000 grains weighed 33.8-36.2 g. The sowing rate is 3.0 million seeds (without fertilizers). In 6 variants the average spike length is 8.6 cm, the average number of grains per spike is 22.3, the average weight of 1 spike is 0.8 g, the number of productive stalks per 1 m² is 193; Grain weight 32.8 g per 1000 grains, mineral fertilizers P₃₀ K₃₀ (Fon), (Fon) N₃₀, (Fon) N₄₀, (Fon) N₅₀ kg / gauge 7,8,9 and 10 options spike length average 10.5 -11.6 cm, the number of grains in the spike is 22.2-23.9 pieces on average, the average weight of 1 spike is 0.8-0.9 g, the number of productive stalks per 1 m² is 213-243 pieces, the weight of 1000 grains is 34.9- 37.2 g. The sowing rate is 3.5 million seeds. In 11 variants, the average spike length is 8.7 cm, the average number of grains per spike is 21.1, the average weight of 1 spike is 0.8 g, and the number of productive stalks per 1 m² is 214. , Grain weight 33.0 g per 1000 grains, mineral fertilizers P₃₀ K₃₀ (Fon), (Fon) N₃₀, (Fon) N₄₀, (Fon) N₅₀ kg / kg 12,13,14 and 15 options spike length average 9.7 -10.1 cm, the average number of grains per spike is 20.9-21.9, the average weight of 1 spike is 0.8 g, the number of productive stems per 1 m² is 224-229, the weight of 1000 grains is 34.4-35.0 g was determined experimentally.

It should be noted that the effect of sowing rate and mineral fertilizer rate on triticale productivity indicators was observed.

The sowing rate of triticale is the same as that of wheat, with 3.5-4.5 million seeds per million, and 4.5-5.5 million seeds per hectare in fertile and moist soils [p. 132]. The triticale plant is demanding to mineral fertilizers and absorbs 40-50 kg of nitrogen, 15-16 kg of phosphorus and 40-45 kg of potassium fertilizers from the soil for 1 ton of grain and suitable straw [p. 131]. X.A.Piskunova, A.V. In their experiments, the Fedorovas found that early triticale planting and feeding with nitrogen fertilizers resulted in more productive stems, more grain formation, and higher yields [pp. 143-147].

In the spring study of the experiment (2-28.02), the sowing rate was 2.5 million seeds (without fertilizer). gr, the number of productive stems per 1 m² is 138 pieces, 1000 grain weight is 27.9 gr, mineral fertilizers P₃₀ K₃₀ (Fon), (Fon) N₃₀, (Fon) N₄₀, (Fon) N₅₀ kg / applied 17,18,19 and in 20 variants the spike length averaged 0.8-0.9 cm, and the number of grains per spike averaged 23.5-26.5; The average weight of 1 spike was 0.8-0.9 g, the number of productive stems per 1 m² was 156-163 pieces, the weight of 1000 grains was 29.8-31.8 g. The sowing rate is 3.0 million seeds. In 21 variants, the average spike length is 8.6 cm, the average number of grains per spike is 21.7, the average spike weight is 0.7 g, and the number of productive stalks per m² is 177; grain weight 30.3 g per 1000 grains, mineral fertilizers P₃₀ K₃₀ (Fon), (Fon) N₃₀, (Fon) N₄₀, (Fon) N₅₀ kg / kg 22,23,24 and 25 options spike length average 9.0 -10.1 cm, the average number of grains per spike is 21.2-23.2, the average weight of 1 spike is 0.7-0.8 g, the number of productive stalks per 1 m² is 185-204, the weight of 1000 grains is 28.8 32.4 g. The sowing rate is 3.5 million seeds. Fertilized control (without fertilizer). , Grain weight 28.3 g per 1000 grains, mineral fertilizers P₃₀ K₃₀ (Fon), (Fon) N₃₀, (Fon) N₄₀, (Fon) N₅₀ kg / kg 27,28,29 and 30 options spike length average 8.4 -10.4 cm, average number of grains per spike 19.9-21.4 pieces, average weight of 1 spike 0.7 g, number of productive stems per 1 m² 189-216 pieces, weight of 1000 grains 29.3-32.6 gr was determined experimentally.

Influence of sowing time, seeds and mineral fertilizers on the productivity of triticale “Sardor” variety (Gallaorol 2019-2021)

№ ₂	Planting rate, mln	The norm of mineral fertilizers, kg / ha	1-10.10 autumnperiod					№ ₂	2-28.02 springterm				
			2019-2021 years						2019-2021 years				
			Spike length, cm	Number of grains per spike, pcs	Average single spike weight, gr	Number of productive stems per 1 m ² , pcs	1000 dona don mass, gr	Spike length, cm	Number of grains per spike, pcs	Average single spike weight, gr	Number of productive stems per 1 m ² , pcs	1000 dona don mass, gr	
1	2.5 million doğa / ha (100)	Control (without fertilizer)	8,7	20,5	0,8	180	33,5	16	8,6	22,3	0,8	138	27,9
2		P ₃₀ K ₃₀ (fon)	10,7	19,2	0,8	207	35,8	17	9,6	23,5	0,8	160	31,8
3		(fon) N ₃₀	10,9	22,3	0,9	190	36,2	18	10,1	24,3	0,8	163	31,8
4		(fon) N ₄₀	10,3	22,0	0,8	181	33,8	19	9,8	26,5	0,9	163	29,8
5		(fon) N ₅₀	9,9	21,1	0,8	196	34,9	20	9,3	24,8	0,8	156	31,1
6	3.0 million units / ha (120)	Control (without fertilizer)	8,6	22,3	0,8	193	32,8	21	8,6	21,7	0,7	177	30,3
7		P ₃₀ K ₃₀ (fon)	10,9	22,2	0,8	234	36,1	22	10,0	21,2	0,7	202	32,4
8		(fon) N ₃₀	11,6	23,9	0,9	243	37,2	23	10,1	22,5	0,8	204	32,2
9		(fon) N ₄₀	10,5	23,9	0,8	213	35,4	24	9,9	22,9	0,8	186	29,8

									8				
10		(фон) N ₅₀	10,7	23,3	0,9	217	34,9	25	9,0	23,2	0,8	185	28,8
11	3.5 million units / ha (140)	Control (without fertilizer)	8,7	21,1	0,8	214	33,0	26	8,4	19,8	0,6	182	28,3
12		P ₃₀ K ₃₀ (фон)	9,7	20,9	0,8	229	34,8	27	9,6	19,9	0,7	210	32,1
13		(фон) N ₃₀	10,1	21,9	0,8	229	34,4	28	10,4	20,6	0,7	216	32,6
14		(фон) N ₄₀	10,0	21,4	0,8	224	35,0	29	8,9	20,3	0,7	199	31,5
15		(фон) N ₅₀	9,9	21,5	0,8	227	33,7	30	8,4	21,4	0,7	189	29,3

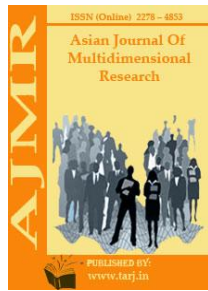
CONCLUSION

Based on the results of the study, it can be concluded that in the dry gray soils of Jizzakh region, the sowing rate of triticale “Sardor” in the autumn is 2.5 million seeds and 8 varieties with mineral fertilizers (Fon) N₃₀ have an average yield of 11.6 cm, the average number of grains per spike is 23.9, the average weight of 1 spike is 0.9 g; Number of productive stems per 1 m² is 243, 1000 grains weigh 37.2 g; in the spring period the sowing rate was 3.5 million seeds and the average yield of 28 varieties of mineral fertilizers (Fon) N₃₀ was 10.4 cm; The average yield was 20.6 grains, the average grain weight was 0.7 g, the number of productive stalks per 1 m² was 216, and the average grain weight was 32.6 g per 1000 m².

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IMPROVING THE EFFECTIVENESS OF CONTINUING MUSIC EDUCATION THROUGH TECHNOLOGICAL DESIGN

Charos Nematovna Torayeva*

*Teacher,
Jizzakh State Pedagogical Institute,
UZBEKISTAN

ABSTRACT

This article considers the benefits of organizing music lessons on the basis of technological designing on the topics of classical music in secondary schools, describes the existing problems in preparation of future music teachers in higher educational institutions.

KEYWORDS: *School, Music Culture, Classical Music, Organization, Technology, Design, Future Teacher, Advantage.*

INTRODUCTION

The national values of the Uzbek people, which have great and deep roots, as well as the spiritual and cultural factors that determine the existence, viability and independence of any society, are the most important factor strengthening the spiritual, cultural and ideological foundations of our country's independence; and this has been comprehensively substantiated in the works of the First President IA Karimov on the path of socio-political, economic and spiritual prospects of the independent development of our republic.

As in all parts of the system of continuing education in the country, in the music science and textbooks of general secondary schools, a wide range of examples of folk music heritage. From the very beginning of education, students are introduced to Uzbek folk songs, especially the historical and cultural values of the Uzbek people - classical and *makom* art, listening to samples and using their artistic spirit in the process of understanding students' national identity through examples of music culture, artistic and aesthetic the formation of worldview and thinking is the main goal.

THE MAIN FINDINGS AND RESULTS

Classical works in the Uzbek folk musical heritage are unique in that they are a high example of creativity, have a wide range, the development of melody, complex methods, and are mainly based on classical poetry. Listening to, studying, singing classical musical works, mastering theoretical knowledge about them requires certain musical knowledge, skills and practical

performance skills from students, and special professional training and pedagogical skills from music teachers. One of the main indicators of the content, quality and effectiveness of education is the fact that in the process of acquainting students with the classics, the reality depicted through their artistic images, understanding the artist's artistic imagination and experiences, emotional perception, distinguishing, evaluating and expressing the artistic value of the work.

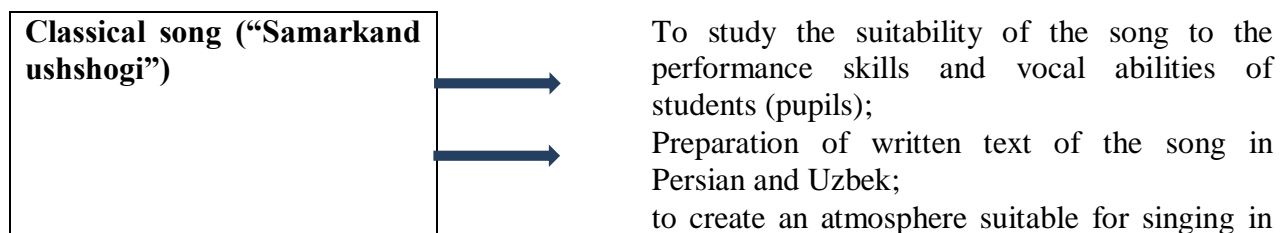
Another important aspect of classical music is that it is based on the teacher-student tradition. Classes on classical music give priority to listening and analyzing musical works. The complex composition of the structure of the melody, in which the analogies, comparisons, allusions, moods, images and real qualities of the poetic texts are connected and exaggerated by connecting them with the creative inner experiences and feelings; The most important aspects of the lesson are the knowledge and understanding of the specific melodies, rhythms, repetition of certain structures, ornaments typical of national performance in the performance of the melody.

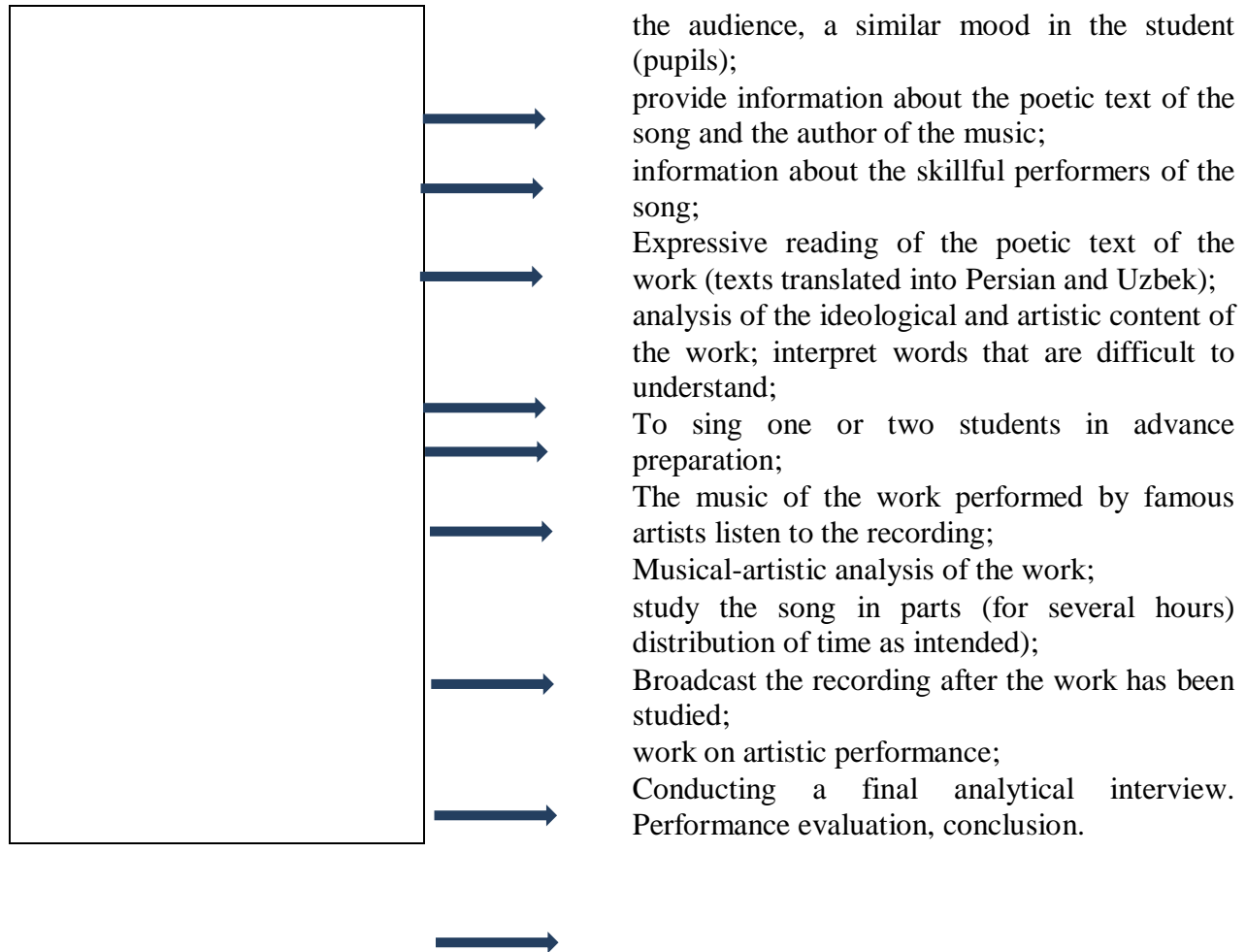
Many of the classical, *makom*, and folk songs are performed with classical poems and *makom* ghazals, which contain many words, terms, place names, and allegories typical of oriental classical poetry that are not in use in our speech today; creates some problematic situations in the understanding of their meaning and content, without a deep understanding and feeling of which it is impossible to fully comprehend the content of the work, its artistic value, its level as a work of art.

The lack of attention paid to the aspects of classical music in secondary schools (mainly in grades 6-7) is a result of the lack of professional training of science teachers to organize lessons on classical works in a pedagogically and methodologically correct way. This requires, first of all, the continuous improvement of the preparation of future music teachers for school activities in the process of higher pedagogical education in order to ensure that classical music lessons in general secondary schools meet the requirements of the State Education Standard and Curriculum. In the course of teaching "Traditional and folk singing" and "Uzbek classical singing" (which was in the curriculum until 2011 and is now taught as a subject in many universities) in the curriculum of "Music Education" in pedagogical universities methods, regular acquaintance with the experience, giving wide space to the knowledge and concepts of the ministry; The organization of lessons on the basis of specific technological approaches serves to create a solid foundation for the preparation of students for school music education.

The results of research aimed at the scientific and methodological solution of the above-mentioned features allowed to develop technological projects for the study of several classical songs in the classroom.

One of the technologically designed lessons was the song "Samarkand ushshoghi" ("Injost"), one of the flowers of our musical art. Despite the fact that this hymn, which sings of pure love, was written in ghazal Persian, it was skillfully performed by many famous representatives of Uzbek and Tajik artists. Even today, it has a wide place in the repertoire of many talented singers. The following technological project is useful in the study of this work in the classroom:





Note: It is advisable to focus on listening and analysis in the version of the project intended for music lessons in secondary schools.

In addition to this lesson, it is recommended that you use the following information.

One of the important factors in improving the effectiveness of music education is the selection and comparative analysis of songs performed by famous artists - MunojatYulchiev, MalohatDadaboeva, DilnuraKadyrjanova, UktamAhmedov.

Information about the work and its talented performers included excerpts from the memoirs of the honored and famous artist of our people, People's Artist Halima Nosirova about her love for this song and how she learned it (3).

The following information about the authors of the song was mentioned. The song "Samarkand ushshoghi" ("Injost") is based on the 16th century poet Zebiniso's ghazal "Injost" ("Didn't Come"). Zebiniso, a descendant of the great poet and King Babur, is one of the poets who left a certain mark in the literature of the East, such as RobalBalkhi, Maxsadi, Iffati, Ismati, and Samarkand. His poems, such as "Injost" and "Nashut", which glorify love and glorify human qualities, are famous. This song has been performed by several generations of Uzbek and Tajik artists. HojiAbdulazizAbdurasulov, Levi Bobokhonov, ShohistaMullajonova, BarnoIskhakova, Berta Davidova, MunojatYulchieva, MalohatDadaboeva, DilnuraKadyrjanova are among them.

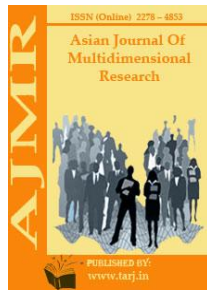
In the process of studying the work, such words as “Shahid”, “Karbala”, “Ka'bah”, “Zakat”, “Karashma”, “Mustahiq”, and “Zulf” are explained in the poetic text.

CONCLUSION

In general, classical music plays an important role in the education of young people, and research on the use of advanced technologies in their study is of great value.

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THE IMPORTANCE OF THEMATIC CONCERTS IN THE EFFECTIVENESS OF EDUCATION

Kholbekov M*

*Teacher,

Department of “Vocal and Instrumental Performance”
Jizzakh State Pedagogical Institute,
UZBEKISTAN

ABSTRACT

Emphasizing the role and importance of educational technologies in improving the quality and effectiveness of advanced pedagogical technologies, the theme of the thematic concert in music education technology. Music lessons are art classes by nature and content. Organizing music lessons in a meaningful and interesting way requires a certain level of pedagogical and professional skills from the teacher. It is very difficult to listen to music, to feel it, to understand the reality, the image and the ideas of the authors.

KEYWORDS: *Music, Concert, Lesson, Classical, Makom, Art, Higher Pedagogical Education, General Secondary Schools, Student, Pupil, Aesthetic Education, Melodies And Songs.*

INTRODUCTION

Music lessons are art classes by nature and content. Organizing music lessons in a meaningful and interesting way requires a certain level of pedagogical and professional skills from the teacher. It is very difficult to listen to music, to feel it, to understand the reality, the image and the ideas of the authors. In music lessons, students' understanding of music and their enjoyment of its ideological and artistic content depends to some extent on musical knowledge, skills and abilities, as well as the participation of emotional feelings. The more active the emotional response to the acquisition of musical-theoretical knowledge, listening to, performance and perception of works, the higher the acquisition and aesthetic enjoyment of them, the more meaningful and thorough. In music lessons, students are introduced to the life and work of folk music, classical and *makom* works, melodies created in modern genres, as well as famous representatives of music - folk singers, musicians, and composers. The formation and development of students' musical thinking and worldview play an important role in the formation of musical culture. This puts the task of teachers and educators to continuously improve their pedagogical skills and teaching methods.

THE MAIN FINDINGS AND RESULTS

Classroom concerts on the subject of "music culture" in secondary schools and thematic concerts outside the classroom play a special role in the implementation of such tasks. Classes on music education and upbringing can be held on a quarterly and annual theme, themed concerts on extracurricular activities dedicated to certain genres of music, works, life and work of composers. Thematic concerts have the following goals and objectives:

- To develop students' interest and love for the national musical heritage, to develop a desire to study it, to get acquainted with the life and work of famous musicians;
- To teach students to comprehend the aesthetic attitude to the events expressed in music, to perceive the reality, the images expressed in the content of the musical work, thereby feeling the beauty, understanding;
- To provide students with information about the life and work of a well-known composer, composer, artist, to understand the essence of philosophical, social, cultural ideas, landscapes, artistic images reflected in their best works.
- To get acquainted with folklore, classical and *makom* songs of folk music, to have a broader knowledge and understanding of the peculiarities of these art genres, to create a stable interest in our national music;
- To develop students' skills and abilities to listen to music, sing, perform creatively:
- The development of musical taste, musical skills in students:
- To teach to use additional sources in the acquisition of musical-theoretical knowledge, concepts and information on the subject.

As far as we know, the teaching materials in music culture classes in secondary schools are organized by year and quarter. They include folklore (children's folklore) belonging to the folk art of music; general information about classical and *makom* trends, types of modern music, such as choir, orchestra (Uzbek folk instruments, symphony orchestra), vocal, symphony, opera, ballet, variety, children's fairy tales, musical drama spaces are given. The fact that the opportunity to acquire full knowledge and understanding of these areas and genres in a single lesson is very limited, confirms that the role and opportunities of thematic concerts in enriching the content and increasing the effectiveness of the course are enormous.

CONCLUSION

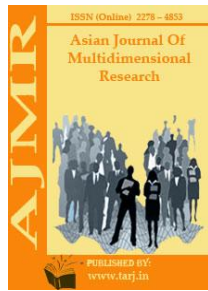
In thematic concerts, students strengthen their knowledge of various trends and genres of music, the works of famous people, their performances, and perform independently. They will have the opportunity to practice and demonstrate their talents and abilities. Regular thematic concerts, which are an important form of extracurricular activities in the field of music, increase students' interest in the art of music, expand the scope of knowledge; have a positive impact on the formation of aesthetic tastes. First of all, his plan and program will be developed for thematic concerts. Necessary visual and technical aids for the concert: musical instruments, computer, amplifier, microphone, screen, CDs about the life and work of composers, stands, posters, accessories for stage and stage participants will be prepared. The decoration of the hall, the preparation of invitations, announcements is entrusted to the students or members of the circle responsible for its conduct. Tasks are distributed. Speakers will be tasked with memorizing the text, and amateur artists will be tasked with staging musical numbers according to the program.

Thematic concerts can be dedicated to the anniversary of a composer, composer, singer, performer, or to the themes of the curriculum material. For example, children's composer Shermat Yormatov, Avaz Mansurov, masters of Uzbek national music Hoji Abdulaziz Abdurasulov, Yunus Rajabiy, Komiljon Otaniyozov, composers Muhammadjon Mirzayev, Imomjon Ikramov, folk singers Mamurjon Uzokov, Jurahon Sultanov, People's Artists Mukarrama Turgunbaeva, Halima Nosirova, Tamarakhonim, Composers – Mutal Burkhonov, Sulaymon Yudakov, European classical composers V.A. Mozart, Beethoven, Dj. Verdi, P.I. It may be dedicated to the creative work of Tchaikovsky and others.

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DESCRIPTION OF THE HUMAN SPIRIT IN COMPARATIVE PHRASEOLOGICAL UNITS

Laylo Buriboyevna Dolieva*

*Researcher,

Department of French Language and Literature,
Samarkand State Institute of Foreign Languages,
UZBEKISTAN

Email id: ldoliyeva@mail.ru

ABSTRACT

This article analyses the figurative comparison of the emotional phraseologisms in French. Particularly, the three-component structure based on the figurative comparison in the comparative phraseology and as well as there are some ideas for differences of semantics of the lexical units which acts as an object of comparison in their structure. In addition, their semantic meaning and etymological features of the use of nouns in animal, professional, and religious beliefs.

KEYWORDS: *Mental Image, Emotional, Figurative Comparison, Comparative, Basic Comparable Action Or Sign, Means Of Comparison, Object Of Analogy.*

INTRODUCTION

The emotional side of a person's life is related to activity in all its forms and manifestations. A person's reaction to the events of reality around him is manifested in emotions.

V.V. Vinogradov notes that "... in linguistic knowledge the history of expressive forms of speech and the expressive elements of language is very little studied ..." [Vinogradov 1955: 70]. The system of linguistic means allows a person to express any emotion indirectly or directly enough.

It is well known that in the process of thinking, comparison is important in emotional cognition and understanding of the world around us.

Comparison has a special place in phraseological units, especially in phraseological units that express a person's emotional state, and such units are widely used in every language.

It is well known that the technique of comparison plays an important role in the cognitive process because it reflects the generalizing nature of language in comparison. Among the various

types of comparison, individual, generally accepted, and stable phraseological units are distinguished [Nazaryan 1987: 113].

Figurative expressions are one of the most effective means of conveying emotional states. The expression of an emotional state in language in a figurative sense is based on a single principle: an emotion that cannot be directly observed (the reaction of the soul), which can be observed directly. emotion (body reactions). Body reactions can be the key to what happens in the human spirit [Apresyan 1995: 461].

The concept of comparison is a complex concept: on the one hand, it is a philosophical, logical, category that plays a decisive role in our understanding of the world; On the other hand, this category is relevant in language, so it can be analyzed as a linguistic category with different levels of means of expression.

Comparison is used primarily for pragmatic purposes, i.e. to make an impression, an impression in communicators; in addition, it gives a personal, subjective, appreciative side to the speaker's response to what he or she is saying. Therefore, comparison is studied by many disciplines.

In linguistics, comparisons are made using the third element, the similarity side of the two parts [Larousse //http://www.larousse.fr/] Based on this idea, most linguists determine that comparisons can include no more than three elements : a means of comparison, comparison, and comparison. The means of comparison in French are words such as **comme, pareil à, tel que, ressembler à,**

Hence, the figurative component of the phraseological unit is conveyed through a figurative comparison of the emotional state of "fear" with an object of living nature, as in the trembler comme une feuille - a leaf-like vibrating lexeme.

Among the lexical means of expressing comparison are "means of comparison". The most commonly used tool for comparison in French is the word *comme*.

Comparative phrases have a significant place in the French language. They have a unique structure, most of which consists of a common point, a means of comparison, and a comparator.

Their structure can be further analyzed in two ways: first, on the grammatical side, which takes into account the fact that the element before the unit representing the general speech belongs to a part of speech.

In this case, we can give an example of verb and qualitative phraseological units:

Verb Phraseological Units	Qualitative Phraseological Units
admirer comme une brute aimer comme ses (petits) boyaux amuser (s') comme un bienheureux amuser (s') comme une croûte de pain derrière une malle	amoureuse comme une chatte amoureux comme un roi amusant (gai) comme un croque-mort blanc comme la neige

In the process of comparison, not only the sign but also the action is widely used in the phraseological units of the *comme* component.

Character Comparison	Action Comparison
triste comme l'hiver blanc comme la neige	pleurer comme une Madeleine craindre comme Satan

heureux comme un tueur de cochons heureux comme un roi	pleurer comme une fontaine rougir comme une tomate trembler comme une feuille
-----------------------------------------------------------	-------------------------------------------------------------------------------------

In the process of character comparison, in phraseological units such as **triste comme l'hiver**, the word **triste** (sad) is compared, and the word **hiver** (winter) is compared, and figuratively, sadness is compared to winter.

In the process of comparing movement, in phraseological units such as **pleurer comme une fontaine**, the pleural (crying) action is figuratively compared to a fontaine (fountain).

Comparisons in the phraseological units of the Comme component are mainly made within the noun phrase.

The second aspect of phraseological analysis focuses on the meaning of comparison. This can be expressed in the phraseological units that describe a person's state of mind as follows:

Comparison	Examples
Nation	fort comme un Turc
Animal	amoureuse comme une chatte bondir (se jeter) comme un tigre honteux comme un renard qu'une poule aurait pris heureux comme un poisson dans l'eau
A plant	rougir comme une tomate trembler comme une feuille
Body part	être comme une âme en peine
Elements of nature	triste comme l'hiver blanc comme la neige
Objects, things used in daily life	pleurer comme une fontaine aigre (acide) comme verjus emporter (s') (monter) comme une soupe au lait être là comme une souche rester comme une bûche
Historical, religious and literary heroes	pleurer comme une Madeleine craindre comme Satan
Activity and profession	heureux comme un tueur de cochons heureux comme un roi être étonné comme un fondeur de cloches être heureux comme un pape

In the phraseological units that express the mental state of man, the form of comparison of the nation is almost non-existent.

In the minds and cultures of each nation, the names of animals and birds have their own symbols, which are also characteristic of words that have been compared in phraseological units. Indeed, "each person's linguistic ability and communication skills are formed and activated in a particular cultural area, cultural environment. Therefore, it is natural that cultural elements are reflected in the structural and semantic levels of the units that occur in the process of human thinking and linguistic activity" (Safarov Sh.: 2006: 65).

In such phraseological units the condition of comparison of animal and bird names is widely used. For example:

Amoureuse comme une chatte

Amuser (s') comme un rat mort

Heureux comme un poisson dans l'eau

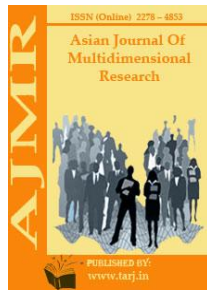
Triste comme un hibou

Rire comme une baleine

In the phraseological units in which the figurative analogy is expressed above, the analogy is studied, first and foremost, by linguists as a relation of similarity between the two elements of a uttered sentence. This relationship can be a relationship of commonality or difference, equality or inequality. Comparison is often characterized by the whole structure of three elements: the comparator, the comparator, and the means of comparison. The emergence of phraseological units in any language is directly related to the beliefs, religion, and culture of the speakers. In the process of analyzing French comparative phraseological units, we have tried to reveal the cultural features of comparison, in which the role of religion-related culture in the emergence of phraseological unity is significant.

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COMPARATIVE ANALYSIS OF THE DEVELOPMENT CHARACTERISTICS OF THE TOURISM INDUSTRY IN ECONOMIC DEVELOPED AND DEVELOPING COUNTRIES

Nazira Tokhtaevna Azizova*^{*}; Zuhra Shuhratilloevna Norova^{**}**

*Ph.D., Senior Lecturer,
Chair of “Foreign economic activity and tourism”,
Faculty of “Economy, politics and tourism of the East countries”,
Tashkent State University of Oriental studies,
Tashkent, UZBEKISTAN

**Master Degree,
Chair of “Foreign economic activity and tourism”,
Faculty of “Economy, politics and tourism of the East countries”,
Tashkent State University of Oriental studies,
Tashkent, UZBEKISTAN

ABSTRACT

The article looks at the concept of directions for comparative analysis of the development characteristics of the tourism industry in economic developed and developing countries and the ways to improve its role in the economy, which makes research topic relevant.

The scientific article gives scientific definitions to such categories as "tourism industry" and its types by various scholars and authors. In addition, the article groups the tourism industry in economic developed and developing countries, summarizes and comprehensively, analyzes the theoretical and scientific approaches to improving their effectiveness.

Having done an extensive analysis of the research materials, the author makes a conclusion about the urgency strengthening measures the directions for the development of international tourism in order to avoid further economic recession.

KEYWORDS: *Tourism Trends, Tourism, Tourism Industry, International Tourism, Developed And Developing Countries, Tourist Flows, Hotel Industry, International Tourist Hotels, Competitiveness Of Tourism, Travel And Tourism.*

INTRODUCTION

Comparing the developed and developing countries by key criteria, this together shows that both countries have stable and unique patterns in the organization and economy of the tourism sector. The biggest differences between the groups of countries are the interregional and interregional balance of tourism development, species diversity, flexibility and innovation of the tourism and hospitality industry, the characteristics of the multiplier effects of the sector under consideration and systemic leakage, as well as marketing tools and artificial attractiveness. width is observed according to criteria such as creation approaches.

The development of such an important sector as the tourism and hospitality industry in developed and developing countries, as well as consulting, which is an important factor in increasing productivity and efficiency, is very interesting.

Systematization of approaches and criteria for analyzing the specifics of tourism development in developed and developing countries, many of which are based on criteria that are key in terms of the nature of the tourism and tourism industry, is appropriate, but with increasing globalization and postindustrial society is of particular importance in dental conditions.

MAIN PART

1. Interregional balance of tourism development in the country. Significant regional disparities are significant in developing countries, and such regional disparities are characterized by uneven development of the tourism sector. A similar problem is common in developed countries, as tourism, by definition, provides tourists with access to attractions. can be easily tracked in the statistics and rankings of places visited by tourists. With the development of inbound tourism, the imbalance in regional economic growth usually begins to decline and secondary centers of tourist attraction emerge. According to a number of researchers, it is necessary to regulate the industry by the state in order to prevent excessive disparities and coordinate the development of regional tourism.

2. Intra-industry balance of tourism and hospitality industry. Developing countries are distinguished by the difference between the levels of development of different segments of the tourism and hotel industry.

In the initial and intermediate stages of active tourism development, there is an uneven growth and saturation of demand in various sub-sectors of the tourism and hospitality industry, while in developed countries the tourism and hospitality industry is more likely to achieve a balance. the form of operation of complete clusters. This issue is especially important in terms of a complex and holistic perception of tourists, as inter-sectoral balance leads primarily to greater synergies. A major shortcoming of competition in many developing countries is that service deficiencies in many types of tourism related to infrastructure disrupt the tourism experience.

A major shortcoming of competition in many developing countries is that service deficiencies in many types of tourism related to infrastructure disrupt the tourism experience. It can be seen that one of the most effective approaches in the developing environment of developing countries is to talk about the leading and usually lagging segments in the field of tourism and hospitality, especially tourism is a strategic option of economic development. [30].

3. Diversity of types of tourism. Diversification of tourism products in developed countries involves the more complete development of space and mass tourism products, as well as the

implementation of thematic and spatial synergies [8]. Developing countries are characterized by low diversification of tourism species and the presence of combined species. The main reason for this is that if a developing country does not enter the large-scale international flows of thematic tourism, it will not be possible to achieve the much-needed level of effective demand.

4. The ability of consumers to pay for tourism products. This issue is related to the socio-economic stratification of society. In developing countries, all strata and professional groups are involved in tourism, and even in countries that are relatively middle-class or even successful, no more than a quarter of the population.

5. Production and innovation of the tourism industry. Obviously, if the entrance ticket to a museum in a developed country is 5 euros and in a developing country it is 1 euro, this will create different starting conditions for hiring staff and even technical equipment. The fact is that the technology is increasing the level of experience in all segments of the tourism industry through virtualization, automation and improving the quality of service. Thanks to its high technology, it is possible to create new types of tourism with high added value. An example of the impact of technology and innovation is educational tourism, which is more dependent on its technological, intellectual, innovative and prestigious path.

6. The multiplier effect of investment in tourism. Tourism is an area that has the most obvious impact on costs and employment. Quantitative estimates of econometric input-output models have a significant impact not only on the individual impact on a number of central parameters such as production, medium and long-term dynamics of the regional economy, employment), but also on the level and complexity of tourism and hospitality because the first wave of the multiplier effect occurs mainly within the main and first band of the interrelated sectors of the tourism and hospitality industry (hotel sector, transport, landscaping). The level of development of the relevant sectors is also important: agriculture, food industry [37]. The employment multiplier in developing countries is very high, which is explained not only by the low labor force, but also by the low skills and qualifications of the workers.

It should also be borne in mind that the spill-over effect is derived from the development of the tourism industry, which is derived from the development of the tourism industry but mainly within the cluster [19], all indirectly, given the spatial heterogeneity of tourism growth models understood as effects [35].

The above means that, on the one hand, a developed country receives a multiplier effect from the development of tourism more deeply and broadly in terms of the structure of the whole economy. On the other hand, in exchange for cheap labor, a developing country can achieve the effect of a relative increase in employment under conditions comparable in absolute terms of investment, which is especially important in terms of the poverty reduction paradigm.

7. Structural leakage in tourism. It is known that systemic inflows are a type of economic loss in the form of falling income (as opposed to "laundering" tourism revenues with high import potential), as they are used by other foreign businesses to attract tourism products. obtained in the previous chains of formation and formation.

Such leaks include out-of-destination costs for tourists, including transportation (including airfare), insurance premiums, booking premiums, and income from foreign travel agencies and tour operators.

Clearly, the general underdevelopment of the business environment means that developing countries are less favorable in terms of systemic flows than their share of product value in developed countries.

At the same time, many small sectors of the tourism and hospitality industry are not only international, but also due to digitization, virtualization, simplification of electronic payments, the evolution of Internet platforms and the reduction of the share of transportation costs in the total cost of travel products [4] is changing as the share of the entertainment component in products and travel costs increases. Therefore, revenues, which were taken as absolutely foreign 3-5 years ago, now represent segments of the cost of tourism products, for which the travel agencies located at the address can compete.

8. Promotion of regional marketing: DMO (Destination Marketing Organization) and convention bureau (convention bureau). Studies show that structures such as DMOs are more common in developed countries, and the best practices of the industry to promote regional marketing promotion are widely used. The best example of one of the leading national DMO structures is Visit Britain, which provides detailed analytical reports on more than twenty countries with the highest number of tourists in the UK. The performance of such powerful analytical structures, which examine national portraits of consumers in detail, is undoubtedly an expert advantage of developed countries, particularly Spain and the United Kingdom. Developing countries, in the context of development, set themselves the simple task of acquainting potential tourists with their resources to a minimum. For many developing destinations, work on this criterion is mainly aimed at overcoming the stereotypes and fears of tourists.

If we refer to the Russian practice, it can be noted that there is a single convection bureau or DMO at the regional level, for example, the Yaroslavl convection bureau. However, in most regions, for several years they have been approaching the establishment of a DMO or convection bureau, but everything has been postponed indefinitely.

Developed countries are characterized by multidimensional consumer behavior, diversity of travel motives, numerous categories of travelers and types of tourism, while developing countries are characterized by underdeveloped "electronic" and "green" segments. [12].

9. The level of service and service orientation in tourism and hospitality ..In developed countries, companies in the tourism and hospitality industry take into account a wider palette of aspects of service management in their business processes [16, 2]:

1) tourists in developed countries are more attentive to aspects of safety and risks in their travel, the perception of safety more significantly influences their consumer preferences [24] and even how they plan their tourist travel routes [34], including safety issues in conditions of the urban environment and disadvantaged areas [10]. However, tourist planning in developed countries is characterized not only by greater attention, but also by the general openness of the country to tourists, including the concept of English-friendly and China-friendly service;

2) developed countries are characterized by increased attention to the category of elderly tourists [13]. Older tourists tend to have longer stays and a much higher likelihood of repeat visits [5];

3) developed countries, especially the United States, from the point of view of service management in the tourism and hospitality industry, have moved to the stage of quantitative assessments, offering methods and indices of consumer satisfaction (in particular, the customer satisfaction index model for international tourist hotels) [14].

10. Use of artificial attraction. It is typical for developed countries that in the process of creating their positive image, they have advanced quite far in terms of the activities of the DMO and convention bureaus, as well as the positioning of the tourism products they offer, not only based on their "objective" attractiveness, but also by additional successful highlighting of special, often secondary features of their tourism products, which in the eyes of consumers seem to have any additional or increased consumer characteristics. This is achieved, among other things, with marketing tools (in particular, branding of territories), largely due to elements such as digitalization, virtualization, legend, a higher level of service, and the use of technological innovations. This criterion can be attributed to a deeper study in developed countries of tourism products of certain types of tourism and even innovative positioning of entire destinations. For example, the Spanish region of Extremadura recently began to position itself as a center for gastronomic and wine tourism, although traditionally it was not perceived as such by mass tourists. However, thanks to advertising and publicity campaigns, as well as improving the link between the production of local products and the tourism sector, it was possible to achieve a critically needed effect in terms of a new perception of the mass tourist in a relatively short time.

RESULTS AND DISCUSSIONS

Now Extremadura is experiencing an increase in the solvent tourist flow, although until recently it was considered as a secondary center for cultural and educational tourism [18]. Developing countries lag significantly behind in approaches and methods of creating artificial attractiveness.

Level of awareness of sustainable tourism development issues. Developed countries are moving towards a more complete and multifaceted account of the social and economic components of sustainable development, while developing countries are dealing with basic environmental issues. Developed countries are approaching the state of the so-called "enlightened tourism", based on the terminology of David Weaver [32]. According to D. Viver's concept of enlightened mass tourism, developed countries in the next decade will finally come to a dialectical consensus ("synthesis"), combining the best of two opposite, extreme previous forms: traditional mass tourism of the 1960s-1970s. ("Thesis") and that arose in opposition to it in the 1980s-1990s. a conglomerate of alternative types of tourism ("antithesis") [33].

Training of personnel in tourism, their specialization, certification, professionalization. Developed countries are characterized by greater specialization and professionalization of personnel, as well as longer periods of study. Not only because it is a kind of social imperative, but also because the official functions of many positions, both in the design and promotion of tourism products and in the tourism development of territories, place higher demands on candidates.

In developed countries, entire educational clusters in the field of tourism have already been formed, while in developing countries they are just being formed [14]. The existence of tourism clusters and sub-clusters of both formal tourism education and non-formal and continuous education within their framework means that workers are relatively easy to change their career paths within the tourism industry, since more and more qualified employers can validate their formal and non-formal education, as well as accumulated experience.

It seems productive to additionally take into account the presence in developed countries of cultural clusters that are more capacious in terms of social competences [1].

The degree of development of consulting in tourism. Consulting is in many ways an indicative sub-industry of the tourism and hospitality industry, since it appears at such a stage in the formation of this industry (as a rule, at the stage of cluster development), when some critical mass of solvent needs for professional expertise and adjustment of business processes in the industry has already been accumulated.

According to this criterion, developed countries are far ahead of many developing countries in terms of the presence of "superspecialists" and visionaries who are able to be an important factor of competitiveness within tourism clusters.

This has been happening over the past 20 years in leading countries in the field of tourism thanks to strategic, conceptual consulting at the stage of business design, as well as optimization of individual business processes within the so-called PSOM (Professional Service Operations Management) [11].

If consulting is productive, then in the tourism and hospitality industry, consulting increases the profitability of the business, and the business sees a positive return from consulting and uses it to an even greater extent; such effects of the upward spiral of the tourism and hospitality industry have been found especially in Spain [6] and the United Kingdom.

CONCLUSION

There is reason to believe that Russia, according to the criteria proposed for consideration in the article, is, in many respects, a developing country as a whole and in the context of the specifics of the development of the tourism and hospitality industry. A more detailed correlation of the characteristic features of the development of tourism and hospitality in developed and developing countries with the processes that are taking place in Russia for a kind of "diagnostics" of the current situation and the identification of prospects for foresight could be of interest.

It would also be important to determine which elements of the international experience of which countries are most likely and / or desirable to act as a proxy model for predicting trends in the Russian tourism and hospitality industry.

The criteria presented in the publication could form the basis of a certain analytical matrix for analyzing trends and features of the development of the national tourism system. It could serve as a good complement to the expert assessments of the Travel and Tourism Competitiveness Report, since there is reason to believe that the report of the World Economic Forum still does not sufficiently analyze and, most importantly, conceptualize some important essential characteristics and trends in the development of the tourism and hospitality industry.

However, such a task, apparently, was not set within the framework of this report, proceeding from the very technocratic approach of the World Economic Forum researchers. However, the technocratic ranking approach cannot be exhaustive and self-sufficient for the purposes of a full-fledged foresight.

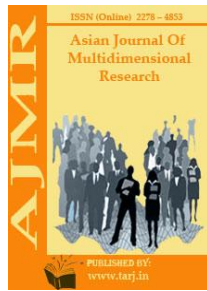
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DIRECTIONS FOR THE DEVELOPMENT OF INTERNATIONAL TOURISM

Nazira Tokhtaevna Azizova*; **Zilola Akramkulovna Rasulkulova****

Ph.D., Senior Lecturer,
Chair of “Foreign economic activity and tourism”,
Faculty of “Economy, politics and tourism of the East countries”,
Tashkent State University of Oriental studies,
Tashkent, UZBEKISTAN

**Master Degree,
Chair of “Foreign economic activity and tourism”,
Faculty of “Economy, politics and tourism of the East countries”,
Tashkent State University of Oriental studies,
Tashkent, UZBEKISTAN

ABSTRACT

The article looks at the concept of directions for the development of international tourism and the ways to improve its role in the economy, which makes research topic relevant.

The scientific article gives scientific definitions to such categories as "international tourism" and its types by various scholars and authors. In addition, the article groups the directions for the development of international tourism, summarizes and comprehensively, analyzes the theoretical and scientific approaches to improving their effectiveness. Having done an extensive analysis of the research materials, the author makes a conclusion about the urgency strengthening measures the directions for the development of international tourism in order to avoid further economic recession.

KEYWORDS: *Tourism Trends, International Tourism, Tourist Flows, Smart Cities, Smart Places, Competitiveness Of Tourism, Travel And Tourism.*

INTRODUCTION

Due to the pandemic, the number of travelers on international routes decreased sharply, but the volume of passenger traffic on domestic routes increased. In the field of international tourism - the biggest crisis in history. Due to the pandemic, the number of cross-border air flights has

sharply decreased. Even some of the revivals that emerged as a result of the easing of the quarantine regime in a number of countries in May did not change the sad picture.

In the first five months of this year, tourists made 65% fewer flights than in the same period of 2020, or 85% less from January to May 2019. In addition, the extent of the decrease in the number of incoming tourists varied depending on the region. If 71 and 81 percent less tourists came to America and Africa, respectively, then 83 percent in the Middle East, 85 percent in Europe and 95 percent in Asia-Pacific were missed.

Overall, this year's (2021) "tourism" destinations are 147 million fewer than in 2020, 460 million fewer than the "before the pandemic" in 2019. A slight increase in tourist activity is only in May, an increase in the number of vaccinated citizens and against the background of reduced quarantine measures by a number of countries, it has been found that people's interest in international travel has somewhat recovered.

But overall, that hasn't changed the situation. And this is not surprising, as 63 countries around the world have closed their borders for fear of the spread of new variants of the virus. The World Tourism Organization believes that in 2021 there is no need to expect big changes. Although there is a revival in international tourist destinations, there is a risk that borders will be closed due to new strains of the virus. According to UNWTO experts, the solution to the problem depends entirely on the success of the vaccination campaign, as well as the ability of countries to clearly coordinate their actions.

MAIN PART

At the same time, domestic tourism contributes to the sustainable operation of the industry. This is especially noticeable in large countries where residents want to travel and the regions have something to offer them. Thus, the volume of passenger air traffic on domestic routes in the United States is constantly growing; in China and Russia it has exceeded pre-crisis levels.

Increasing attention to global trends is one of the current areas of new research and development in the field of tourism. The aim of this study is to systematize the main modern features of tourism. To do this, the trends are grouped into three thematic groups:

1. International tourism: the dynamics of international arrivals, the geography of flows: the regional structure of international tourism and the core of the concentration of tourist flows, the emergence of "smart" destinations (including "smart" cities).
2. Tourists, including new consumer groups.
3. Tourism industry: the main conditions, tasks and principles of development on the basis of identified tourism trends.

In terms of international tourist flows, the number of international tourists (overnight visitors) worldwide increased from 952 million (2010) to 1.461 million (2019).

The active dynamics of development (growth) of international inbound tourism confirms the forecast of its steady growth in the coming years (until 2030). (Figure 1)

Growth has continued for 10 years in all regions of the world (average growth rate is 5%, the growth rate of tourism exceeds the economic growth rate [21]), but in 2019 again in 2014 and 2016 as in [20]], the growth rate of tourist flow decreased to 4% - Fig. 3. An indicator of the

stability of the flow of tourism is the rapid recovery of growth rates (e.g., a loss of 4% growth rate in 2014 to 5% in 2015, a decrease of 4% in 2016 to 7% growth in 2017))

Actual Trends vs Tourism 2030 Forecast- World

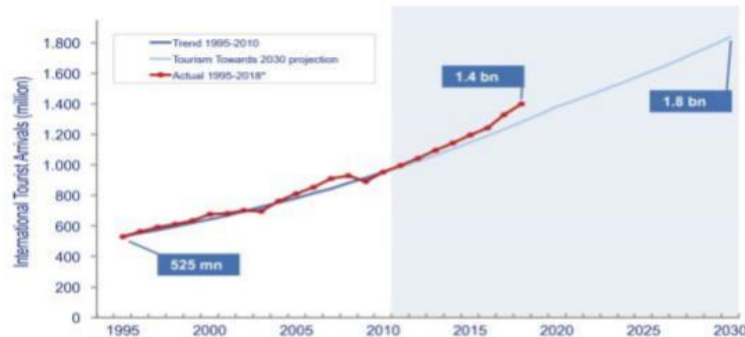
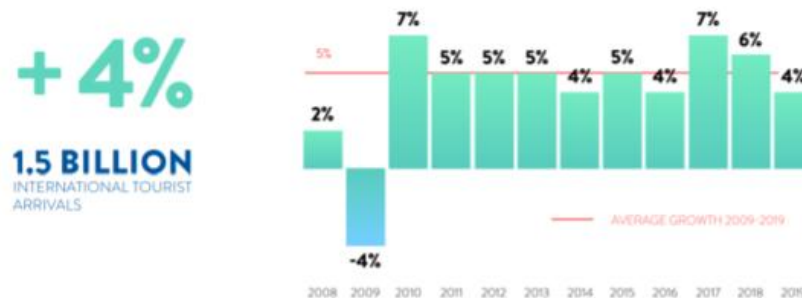


Figure 1. Real trends and global tourism prospects until 2030

Source: [19]

In 2020, the flow of international tourists was projected to grow from 3% to 4%. This means that for the first time in 10 years, it will probably be possible to restore lost growth rates in 2019.



SOURCE: WORLD TOURISM ORGANIZATION (UNWTO)

Figure 2. Growth indices of international arrivals in 2008–2019, %.

Source: [20]

The slowdown in the growth of international tourism has mainly affected developed economies, particularly Europe and the Asia-Pacific region.

The reasons for the slowdown are different: geopolitical, socio-economic. At the same time, the flow of tourists to the Middle East grew the most actively (by 7.6% in 2019 [20]) - Figure 4 and Table 1.

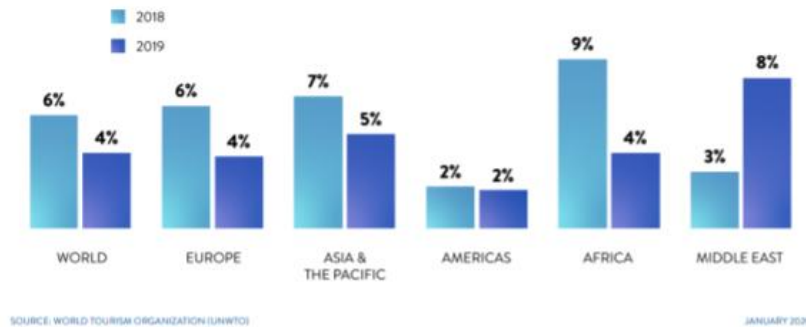


Figure 3. Indicators of tourist arrival dynamics by regions of the world in 2018 and 2019 (%) Source: [20]

TABLE 1 FORECAST OF ARRIVAL AND CHANGE OF INTERNATIONAL TOURISTS

Outlook for International Tourist Arrivals						
	Change				average	2020 Projection
	2016	2017	2018	2019*	a year	(issued January)
					2009-2019*	from
World	3.8%	7.2%	5.6%	3.8%	5.1%	+3% to +4%
Europe	2.5%	8.8%	5.8%	3.7%	4.6%	+3% to +4%
Asia and the Pacific	7.7%	5.7%	7.3%	4.6%	7.1%	+5% to +6%
Americas	3.7%	4.7%	2.4%	2.0%	4.6%	+2% to +3%
Africa	7.8%	8.5%	8.5%	4.2%	4.4%	+3% to +5%
Middle East	-4.7%	4.1%	3.0%	7.6%	2.7%	+4% to +6%

Source: World Tourism Organization (UNWTO) © * Provisional data

Source: [27]

The stability of the international territorial structure in terms of the number of visitors (tourists) in 2017–2019 (Figure 3) and the predominance of tourist flows to Europe (51% of the world market, 2019 [27])

In recent years, interest in urban tourism is growing (city tours, city breaks). Big cities are very popular among foreign visitors. Some metropolitan areas are benefiting from the tourism boom like real tourism magnates. The actual tourist flow in the cities is much higher than shown in the official statistics. This does not include daytime tourists and private accommodation. [15].

RESULTS AND DISCUSSIONS

Nowadays, the problem of overcrowding and overcrowding in certain cities is growing. This phenomenon is called “overtourism” (excessive tourism). Overtourism is particularly prevalent for “global cities” [2], unique tourist areas and facilities. The World Tourism Organization (UNWTO) sees tourism opportunities as “the maximum number of people who can visit a tourist destination at the same time without destroying the physical, economic and socio-cultural environment and reducing the quality of visitor satisfaction”. [25].

The emergence of "smart cities" will contribute to the development of tourism, smart destinations. Thus, at the end of 2015, Barcelona was recognized as the number one “smart city” in the world; in 2017, Spain’s network of smart cities consisted of 82 settlements. New York,

London, Nice, Singapore, Japan, China and South Korea are developing 'smart tourism': they are 'creating a rich information space that meets the needs of the tourist in real time in English or another language'.

The technological basis for the development of smart services is the universal availability of wireless mobile Internet, Bluetooth data transmission systems, Wi-Fi and the like, as well as the necessary information materials and applications for mobile phones: mini-atlases, travel guides, navigation programs, route guides, content and collaboration referral systems, and more.

The long-term trend of increasing the competitiveness of tourism around the world shows that the increase in competitiveness is primarily due to the following six key indicators: air transport infrastructure, ICT readiness (ICT), price competitiveness, international openness, tourism priorities, protection and security.

In the context of active tourism growth (international tourism flow), increasing pressure on tourism infrastructure and services, the competitiveness of tourism can be seen as a strong driver of economic growth or a threat to further development. If the industry is not managed properly. The Travel and Tourism Competitiveness Index is published every two years and assesses the competitiveness of tourism around the world: 136 countries in 2017, 140 countries in 2019. [22,25].

CONCLUSION

The results of 2019 show that as a result of the improvement of air transport infrastructure, the capacity of routes and the number of airlines operating in selected countries have increased significantly. International openness is evolving and low-income countries are ahead. Digital connectivity is supported by the growing number of Internet users, which means that many countries can now take advantage of the growing list of digital travel services. However, in the future, the demand for transport services, especially for aviation, may exceed infrastructure improvements.

The top 10 countries in terms of tourism development remain unchanged [25]: Spain, France, Germany, Japan, the United States, the United Kingdom, Australia, Italy, Canada, and Switzerland. Of these, only the UK has lost its position since 2017 (from 5th to 6th place), followed by the United States (6th to 5th place). The main advantages of leaders are related to the developed infrastructure, natural and cultural resources.

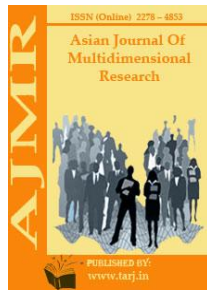
The competitiveness of tourism often leads to a significant increase in demand for travel and tourism. Given the growth in tourism forecast over the next decade, it is important for public and private stakeholders to understand the implications and implications of tourism competitiveness so that they can work together to develop sustainable ways to manage the sector over time.

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THE RECOMMENDER SYSTEM: OPERATIONS RESEARCH IN OTT-PLATFORMS

Anoushka Shah*; Ansh Rathod*; Arnav Jain*; Aryan Chopra*; Aryan Jadhav*

***Student,
Nmims Asmsoc Mumbai, INDIA**

ABSTRACT

Due to the pandemic, OTT platforms are facing a sudden burst in viewership and are meeting an all-time high viewership. Every OTT platform uses different types of recommender systems to suggest a user about a title the user can watch, and thus it provides a personalized environment for each user. Despite using such extensive and advanced techniques to recommend a movie/show, OTT platforms fail to recommend appropriate titles of various genres that the user can watch. Therefore this paper identifies this gap and proposes a recommender system based on user's past preferences of genres and viewership history. The recommender system is based on the operations research technique called the Hungarian Assignment method. This model is yet to be tested using real-time data because of the limited access to backend data. However, it is established that it contributes to a new category of recommender systems.

KEYWORDS: *Recommender System, Binge-Watching, OTT Platform, Probabilities, Hungarian Assignment Method, Operations Research.*

1. INTRODUCTION

OTT platforms have seen a growth of 20% in viewership even after the pandemic restrictions have been lifted. Even though people have the opportunity to go back to theatres, we can still see a growth in the viewership of OTT platforms. People are now more acclimated to watching large amounts of content from the comfort of their homes, plus OTT platforms offer personalization and exhaustive libraries of content in multiple languages. (Jha, 2021)

Taking into consideration the popularization of the OTT platforms, we decided to focus our research on the applicability of operations research on the same. The method used by us is the Hungarian assignment Problem. This technique is presently the most efficient and popular method to solve assignment problems. It is an operations research technique focusing on allocating resources or particular tasks or jobs to specific workers. We can use it for both

maximization and minimization problems. However, it typically focuses on either minimizing the cost or time utilized or maximizing the profits made.

After reviewing the present techniques used for the recommender systems, we can infer that most techniques do not focus on analysing changing genres for the users of OTT platforms. They instead give results based on the same genre, similar actors/actresses, or trending series and movies. (Chong, 2020) Hence, we further formalized an assignment problem based on different genres as this methodology had not been utilized before. Moreover, it could simplify the process while providing optimal recommendations to the user.

Thus, we have generated an assignment problem to create a recommender system. It is based on the probabilities of an individual. These probabilities show which series or movies the viewer would stream after viewing a specific genre. This technique is used to maximize the probabilities mentioned, which would help create a pattern and enable the system to recommend an ideal show or movie to the user.

2. LITERATURE REVIEW

A recommendation system is based on an algorithm that can learn the user's preferences and automatically suggest a feature or a product to the users (Chen et al., 2008). These systems are prevalent nowadays because they assist the sellers on how to keep the customers engaged by providing the content, products, or features which they would be interested in. ("How Do Recommendation Engines Work? What Are the Benefits?" 2021; Liu et al., 2021)

Several techniques have been developed over time to create different algorithms which enhance the recommendation systems. In 1993, "Association Rules Mining (ARM)" was introduced by Agarwal. This technique proposed the famous Apriori algorithm, used to find relations between different items in databases. According to this, Alex Tze Hiang Sim, Hosein Jafarkarimi1, and Robab Saadatdoost came up with a 'Proposed model.' In this model, they proposed to pre-process the available data, use FP growth to perform ARM, store them in a sparse matrix and use the matrix to find relations to make a recommendation. (Jafarkarimi1 et al., 2012)

Furthermore, the most popular technique for recommendation is the "Collaborative Filtering System," which uses user's preferences to recommend content, products, and features. In contrast, content-based filtering recommends the viewers products and content based on their past activity. Asikis and G. Lekakos developed a "Collaborative Metaheuristic Algorithm (CMA)" based on the collaborative filtering system, which could be used as a metaheuristic and a constructive algorithm. CMA added items based on their combined scores to construct a solution from zero. (Asikis & Lekakos, 2014)

These traditional methods were built keeping in mind the preference of the customers and neglected profit for the seller. Therefore Mu-Chen Chen, Fei-Hao Hsu, Long-Sheng Chen, Mu-Chen Chen, and Yuan-Chia Hsu proposed two models, which are the "Hybrid Perspective Recommender System (HPRS)" and the "Convenience plus Profitability Perspective Recommender System (CPPRS)." The latter technique recommends products based on purchase probability and product profitability. Hybrid Perspective Recommender System (HPRS) is a technique that uses both the purchase probability of similar customers and the product profitability to make recommendations. Some experiments conducted further indicated that HPRS can generate profit while keeping more accurate recommendations. (Chen et al., 2008)

Another technique that considers multiple criteria for making decisions and rank is "Multiple-criteria decision analysis (MCDA)" or "Multiple-criteria decision making (MCDM)." This technique comes under the branch of operations research. It helps in analyzing multiple conflicting criteria in decision-making. ("What Is MCDM/ MCDA?" n.d.)

E-Commerce websites have been widely using these recommendation systems to target specific customers for specific products. Although collaborative filtering is the most extensively used methodology, Hsiao-Fan Wang and Cheng-Ting Wu have developed superior methods such as "Clique-effects Collaborative Filtering (CECF)." The proposed recommender system module has aimed to achieve the goals of the consumers and suppliers. Furthermore, the linear bi-objective model is the last stage of product selection. For this, the CECF and offline database provide all the required arguments. The proposed module emphasizes consumer satisfaction and supplier's profit, which is vital to an E-commerce company. (Wang & Wu, 2012)

People's viewing habits have shifted due to technological advancements, allowing individuals to control when, what, where, and how they watch television. The rise in popularity of OTT platforms and the increased production of sophisticated stories have resulted in increased streaming of a specific pattern of television viewing known as "Binge-watching." This type of behavior blends culture with technology. (Steiner & Xu, 2020)

Binge-watching is the new addiction for lockdown-stricken internet users. The activity shift is exciting and challenging for OTT platforms as they have to satiate growing demands with quality content. Recommendation systems are used on these platforms to help viewers find quality content as per their mood and taste. The basic idea for the recommender systems is to propose movies or shows which the viewer will be interested to stream. (Vidiyala, 2020)

However, binge-watching has been around since the 1990s in some form or another. It was made possible by the DVD format, but it only recently became a cultural and societal phenomenon. (Matrix, 2014; Richmond, 2014) Initially, we did not plan on including binge-watching in our research paper, but as we started putting information together, we realized how important it was in these times. Many industry assessments now list binge-watching as a common trend among Consumers. (Watson, 2020) It is conceivable only if episodes of the same TV show are shown back-to-back, which is rarely the case in the world of linear TV, where episodes of the same TV show are aired on a weekly or daily basis for the most part. The move toward binge-watching was sparked by video streaming technologies that are now widely used online (Matrix, 2014) and on television (Belo et al., 2019). Consumers can use these technologies to optimize their schedules and watch their favorite content whenever they want. Streaming technology also enables content producers to make multiple episodes of the same TV show available simultaneously, allowing binge-watching.

There is a wide range of movies and shows to choose from, which might confuse the viewers. Thus Jingdong Liu started building a recommendation Algorithm based on speech recognition, machine translation, image recognition, and other fields to yield promising results. Moreover, since the characteristics of its deep architecture are so complex, the deep learning models can evolve themselves. Also, deep learning is a research field that has received extensive attention from researchers in recent years. (Liu et al., 2021)

One such example of OTT platforms using recommendation systems can be Netflix. Netflix's algorithm mainly uses four approaches like "Video-Video Similarity (Sims)," Personalized Video Ranker (PVR),"Continue Watching Video Ranker (CWR),"and "Top N Video Ranker." PVR is an algorithm based on the homepage and shows the users the entire catalogue of titles available on the OTT platform. In addition, the Continue Watching Video ranker is an algorithm that Netflix uses to order the titles appearing in the 'Continue watching' section. The CWR algorithm considers signals such as the time that had passed since a viewer streamed the title when a viewer stopped watching the title (e.g., mid-title, at the beginning of the title, or the end of the title), or whether a viewer has already watched the title.

Moreover, the video similarity algorithm is used to generate the "Because you watched" tab on Netflix, Amazon Prime, and other such OTT platforms. These are not specific to the users and are generated mainly based on similar content. (Springboard India, 2019)

Many online sites, such as e-commerce applications, social media applications, and video streaming platforms, are governed by personalized recommendation systems, notably those based on machine learning. Furthermore, Behavioural data collected from their customers are used by Amazon and Netflix to develop movies and television series. The recommender algorithms also have an impact on this. The majority of recommendation systems use a combination of these three filter types. Both content-based and collaborative-filtering recommender systems have traditionally relied on explicit user input. Algorithms, for example, may collect user ratings, likes, or reactions to a product or content clip. In addition, these applications may use uninstalled user input based on user activity and behavior data. (Singh, 2020)

All of these techniques lead the users while using the OTT platforms. The recommender systems restrict the platforms from suggesting movies or shows of the same genre, which the viewer might not be interested in streaming. In other words, it recommends the user regarding which show or movie to stream or what a customer could buy on the e-commerce website.

3. METHODOLOGY

3.1. Design and Procedure

During our research, we established that a lot of data is collected from the viewer's actions on the backend of the servers. Firstly, the past viewership is recorded in detail, i.e., what the viewer searched before watching that title. Did they select the title directly after searching or started streaming the title based on a recommendation? Followed by what the viewer does after finishing the specific title is also recorded. Alongside the genre, whether it was a movie or a series, even tiny details like the time a particular title was streamed are also recorded. This pattern helps the platforms get an idea of the timing and the mood of the viewer.

Furthermore, this can be used to correlate the two attributes. After combining all these details using the complex algorithm, the probabilities are calculated. These probabilities show which genre the viewer prefers after completing a specific title.

Below, a detailed calculation is shown using such probabilities. [Table 1] We further were able to compute an assignment problem which was solved using the motive of maximization. [Table 2] Using the values, we obtained we could get the recommendations classified as per genres. This eventually created a loop based on the viewer's past actions. [Table 3] After generating the

optimal genre, the algorithm was used to search from several filters and give the results showing the ideal movie or series recommendation.

Using the age of the viewer, which is previously recorded, the algorithm checks the rating of the movie recommended. Once that is determined, the language is selected along with the release date, as some viewers like classic movies, whereas some only prefer the latest movies or series. After this, the algorithm filters the titles, and the movies or series are displayed in descending order of the IMBD rating.

TABLE 1PROBABILITIES

PROBABILITIES OF ONE PERSON SHIFTING TO ANOTHER GENRE

Genre	Comedy	Drama	Romance	Thriller	Sci-fi	Action	Horror
Comedy	0.89	0.65	0.74	0.94	0.71	0.15	0.92
Drama	0.70	0.27	0.49	0.83	0.22	0.72	0.65
Romance	0.36	0.61	0.93	0.88	0.05	0.22	0.65
Thriller	0.09	0.01	0.97	0.48	0.88	0.86	0.03
Sci-fi	0.52	0.56	0.86	0.66	0.09	0.29	0.09
Action	0.74	0.65	0.42	0.64	0.58	0.31	0.20
Horror	0.188887	0.936526	0.753471	0.180776	0.226616	0.953868	0.38665

[Source: Authors]

TABLE

2RESULTSResult of the assignment problem formulated.

Genre	Comedy	Drama	Romance	Thriller	Sci-fi	Action	Horror
Comedy	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Drama	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Romance	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Thriller	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Sci-fi	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Action	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Horror	0.00	0.00	0.00	0.00	0.00	1.00	0.00

[Source: Authors]

TABLE 3

CONCLUSION

Conclusion of the assignment problem formulated.

1	Comedy	->	Drama
2	Drama	->	Action
3	Romance	->	Sci-Fi
4	Sci-fi	->	Thriller

5	Action	->	Horror
6	Horror	->	Romance

[Source: Authors]

4. ANALYSIS

According to the randomly generated data and processing the same using an assignment problem, it is observed that a user prefers watching drama after a comedy series/movie. Moreover, the user wants to see an action movie/series once they are done watching drama. Horror follows this, and further, the user shifts to romance. Romance is followed by Scientific fiction, and additionally, the user chooses to watch thrillers and then back to comedy. These observations show a loop that the OTT user follows. After analyzing the results, we assume that the user gets bored watching a particular genre, thus changing the mood as they shift to other genres.

5. LIMITATIONS

The primary focus of the research paper is to suggest a recommender system that the OTT platforms could use and develop using a technique of Operations research called Assignment problem. This paper tries to solve the assignment problem using randomly generated numbers which could be a limitation to the efficiency of the recommender system. The backbone of this system is the user's preferences, likings, and viewership. Therefore we cannot accurately recommend any new series/movie which is trending. Human brains are hard to predict, and so are their moods. Thus, viewers tend to choose a genre based on their current state of mind. Hence, this should be taken into account as well.

Moreover, the recommender system data does not consider variables like the user's watch time and the time taken to complete a series. These details are essential to calculate the probability. The study fundamentally develops a simple recommender system that could only work effectively in a given scenario. This system does not assess a change in the user's preference over time unless the data is collected and the process is repeated.

6. RECOMMENDATIONS

Since the recommender system is based on the preferences of people, it differs from person to person. OTT platforms give our individuals personalized suggestions to cut down the disappointment and the time taken to discover something they would like to watch. However, not everyone has similar choices. So, in this case, a survey or a method of data collection would have been a viable option as it would have given us a much better outlook on viewer's choices, including their favorite genre, instead of relying on randomly generated numbers.

Additionally, acquiring the information about an individual's total time watching a genre would have made the system more accurate. There is a multitude of variables that would change the results of the recommender system over time. It is also impossible to always be correct for the user's motive for watching some specific content. We also need to consider that people change over time, and their fondness for a particular genre is bound to change with age. Often, children are more likely to watch animated movies/ series or fictional content because that is what excites them the most. However, when they grow into teenagers or adults, they start acquiring a taste of their own and might lose their affection towards a particular genre. Overall, this highlights that future researchers have an opportunity to improve on this system.

7. CONCLUSION

This recommendation system cannot be deemed highly accurate or perfect until actual data is collected and tested. However, a "Perfectsystem" is virtually impossible to build as viewer psychology varies over time, and impulse decisions of the user cannot be predicted. The application of Operations research in OTT platforms is an upcoming field, and there are still many more methods and techniques which can be applied or further explored.

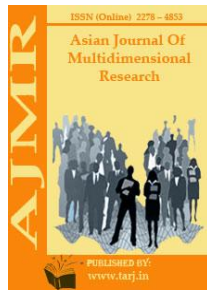
The system aims to maximize the probability of recommending the correct genre to get the viewer to spend a more extended time watching different titles. The system also enhances the user's experience as they can explore titles they may like effortlessly and feasibly. However, there are several limitations to using the system, the most important being the inability to show a new and unique title outside of what the system recommends- this may limit the users' choices to quite some extent. The system is relatively simple right now; however, in the future, we could develop the system to a great extent with the advancements in technology and better data calculation methods. There are several ways to bypass the limitations; simple techniques such as a quick survey would give us a better perspective on the choices than using randomly generated numbers. As viewer psychology is constantly changing, the recommendations may not be perfect. Taking data continuously and a system that could implement those changes to modify the probabilities would help keep the system as close as possible to the viewers' watch preferences.

In conclusion, we have partially met our objective to create a recommender system using the Hungarian assignment method as the methodology works fundamentally. However, due to the lack of accurate real data and limitations mentioned above, there is further scope to improve the research.

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CULTURAL VALUES IN RUSSIAN AND UZBEK LANGUAGES

Rakhmatova Mamura Shakhridinova*

*Lecturer,

Department of Russian Language and Literature,
Navai State Pedagogical Institute, UZBEKISTAN

ABSTRACT

This article is devoted to the analysis of Uzbek and Russian national values, which serve as a guideline for comprehending the cultural code of modern society. The author pays great attention to such traditional and moral values as tolerance, patriotism, charity and humanism, family and its values. The author comes to the conclusion that these two cultures have their own model in order to worthily position themselves in the modern world.

KEYWORDS: *Culture, Values, Identity, Society, Globalization, Tradition, Innovation*

INTRODUCTION

The concept "value" is a very broad phenomenon. National and spiritual values include social phenomena, concentrated on the intersection of the concepts of "nationality", "spirituality" and "value". To explain the essence of any social phenomenon, including the national idea and national spiritual values, the following concepts will help us: the content of national spiritual values; their origin and development (evolution); social goals and objectives (functions); structure; methods and means of application (technology); it is necessary to know the classification of forms and phenomena and, finally, their influence on other spheres of social life.

The concept of value is one of the basic concepts of cultural studies.

While some researchers believe that it determines the need for a period, i.e. acquires a historical character, another researcher, Rickert, on the contrary, asserts that value has a permanent universal character.¹

Value is a very important event in people's lives. Thus, they distinguish between economic, technical, social, political, artistic, scientific, moral values. Values are the essence of natural and social phenomena that are real or ideal benefits of the life and culture of people belonging to a particular society or class. The reason these blessings are called values is because people value them, because these values enrich their personal and social lives.

The most important and shared value is life. Deprivation of life burdens the use of all remaining values, in fact, they are the essence of the benefits of life, cultural values. The place and meaning of value in life is determined by the assessment. Value should be understood as the totality of natural and social phenomena that are important for man and humanity, serving the interests and goals of nations, peoples and social groups.²

Material wealth created by human labor; intelligence is material wealth. Cultural and spiritual values include wealth created by scientific, technological and intellectual capabilities. Socio-political values: freedom, equality, brotherhood also play a role in the development of society and human life. Among the socio-political values, stability, peace and harmony, which have been reduced to ashes at the expense of the future, are of particular importance.

The content of universal human values is deep and broad and has universal significance. Universal values are consistent with the goals and aspirations of all nations, peoples and nations. The category of common human values includes common human problems associated with the development of human civilization. These are the development of science on Earth, the maintenance of peace, the cessation of the use of weapons of mass destruction, the protection of nature, and so on.

Over the years of independence, a lot of work has been carried out to return the people of their spiritual and cultural wealth. The first and most important step was the adoption of the law "On the Uzbek language". This restored the status of the cultural and national heritage of the Uzbek-speaking people. Work was actively carried out to provide architectural monuments in the cities of Bukhara and Khiva, and during this period the monuments acquired a world status.

History and memory are returning to the people of Uzbekistan. The jubilee ceremonies were held according to the merits of our compatriots who made a great contribution to the development of national and world culture. Much has been done to restore national traditions, ancient folk and religious holidays such as Navruz and Khait have officially come to life. In order to continue the traditions of charity and the harmonious development of the younger generation in the Republic of Uzbekistan, the Foundation "For a Healthy Generation" was created, which was named the first order. It has become a good tradition to hold such music festivals as "SharqTaronalari".³

But the moral foundations of Russian culture and civilization were formed under the influence of Orthodoxy and its spiritual principles, where the primary task has always been the moral transformation of both man and the universe as a whole. Philosophers of both countries believe that the deep closeness of Russian and Chinese culture is revealed most of all in the sphere of moral searches, and one cannot but agree with this.⁴

As social reality shows, each person is the bearer of a certain national-cultural code, which is characterized by a set of fundamental characteristics. The Russian person is characterized by a tendency to collectivism, determined by history and the conditions of geographic location.

The collectivism of Russians in modern conditions is focused on the unity of goals, hobbies, value orientations, which serve as an essential factor in the solidarity and cohesion of people, increasing the effectiveness of common activities. In this regard, it is necessary to determine what key national values the modern Russian society possesses. Consideration of some sociocultural characteristics of Russian society with the use of sociological research data allows us to assert that Russian national consciousness is characterized, firstly, by the idea of patriotism

as the highest value of the Motherland and Russia willingness to defend it and work for the benefit of our own people and country.⁵

Language always embodies the originality of an entire people. "Different languages" are by no means different designations of the same thing, but different visions of it. Languages and differences between them should be regarded as a force that permeates the entire history of mankind.⁶ Humboldt's thoughts sound especially relevant today, when there is a revival and renewal of the national spiritual wealth of peoples, an integral part of which are their languages. And today, I think, everyone is interested in knowing why different colors are found in different languages, although physiologically everyone's vision is the same; discrepancies in the specifics of the names of parts of the human body; inconsistent linguistic understanding of the structure of the surrounding world, geographic and climatic features, flora and fauna, etc. The nature, the surrounding world, the environment in which a person lives, initially and quite naturally form his associative representations, reflected in the language by metaphorical transfers of meanings, specific comparisons, connotations, etc. This can be clearly and vividly demonstrated by referring to the sketch of the Uzbek writer T. Pulatov: "солнце" in Russian is not at all what "quyosh" is in Uzbek, and certainly not at all what "oftob" is in Tajik. After all, an Uzbek who lives most of the year under its scorching rays will never say an affectionate diminutive "солнышко", just as a Russian does not have the feeling that the sun can be not only fruitful and earth-renewing, but also hostile. But the Uzbek has a completely different attitude to the moon, this night luminary, which brings coolness and peace. He calls everything beautiful and desirable "moon-faced", "moon-like", and with such an intonation that for the Russian ear it may seem at least pretentious.⁷ What is said in the above fragment is the area of the conceptsphere, i.e. psycho-mental representation, "the spirit of the people", according to Humboldt, which accompanies the language of each nation with an invisible halo, reflecting its culture. In accordance with the existing classifications of culture, one can talk about other norms and values that distinguish different peoples, and, of course, are embodied in the differences in their conceptual and linguistic ideas about the world and about themselves. The range of such differences is extremely extensive and diverse, since any feature of the cultural sphere is somehow fixed by the language and may remain unnoticed until the moment of comparison with other languages. So the usual for Russian-speaking differentiation of the verbs "ехать" (to go) "идти" (to go) according to the mode of movement is absent in the Uzbek language. In Russian, however, there are also certain restrictions regarding the fact that, for example, "a train goes", and "a car goes", but these are stylistic norms. And the appearance of wheeled transport was reflected in the Russian language in the differentiation of such verbs as "везти" (to carry) and "нести" (to carry). The Uzbek verb "olib bormoq" can equally denote these two actions. The influence of the extra-linguistic sphere can also explain the differing cultural model of such a common artifact as a table, even if it is only a dining table. For example, in traditional Muslim culture, there is no table at all. Within the framework of the cultural and ethical models of their languages, there is a significant group of words-references associated with the peculiarities of national etiquette. Thus, the habitual in Uzbekistan address "aka", "opa" (brother, sister) to a stranger and a non-native person in Russia may seem strange and will be attributed to the sphere of church vocabulary.⁸

A separate and comprehensive topic is national rituals, customs, traditions, folklore and mythological images, linguistic differences due to symbolism, to which many special works have recently been devoted. Here are words of national meaning (for example, "берёза" (birch) for Russians, "laylak" (stork) for Uzbeks) or non-existent, fictional objects and characters

(mythological, fabulous: “Баба-ега” (Baba Yaga), “русалка”(mermaid), “леший” (goblin)) among Russians, “pari”(beauty), “dev” (beast), “jin” (genie) - among Uzbeks). Some names are common all over the world and are known even to those who are not directly familiar with the culture of a particular nation, but know these names as stereotypical representations in this regard. For example, everyone knows that “щи”(cabbage soup),пельмени(dumplings) are Russian words, usually Russian dishes, and shurpa (soup) and pilaf are dishes of Central Asian peoples. But you can understand the meaning of these names (concepts) only by trying “cabbage soup” or Uzbek “pilaf”. The most interesting for comparison, of course, are the corresponding metaphorical meanings that reveal the originality of the national color. For example, the Russians call these cases the word “журавль” (crane) not only a bird, but also "an adaptation at the well", and “стрекоза” (a dragonfly) - both an insect, and, figuratively speaking, "a very mobile girl." “Asal” -“honey" and "beautiful, cute, pleasant" (about a child) - in Uzbek. The most important indicator of semantics is the lexical combination, which determines the inappropriate meanings of the corresponding words. Ignorance of stable traditions of fixed meaningiya leads to a typical lexical interference, namely: misinterpretation of the meanings of words in the native language in speech in another language. Lexico-semantic compatibility in many ways also includes specific code in the national language. Therefore, the Russians call “пронизывающийветер” (the piercing wind), “зелёныйчай” (green tea), and the Uzbeks call it “ko'k choy” ("blue tea"), “achchiq shamol” ("bitter wind").

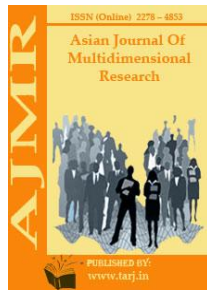
In conclusion, it must be said that the interconnected teaching of language and culture is provided by authentic texts that acquaint with the studied culture and with the traditions and etiquette of communication adopted in the studied culture, acquaint with a picture of a foreign cultural reality, show how the phenomena of a foreign language in speech function against the background of a social context, contribute to the analysis of the similarities and differences between the two cultures. The success of communication, on the one hand, depends on the ability to realize the speech intention, which allows you to establish contact and mutual understanding with people of a different culture, inform and convince them, express an emotional attitude; on the other hand, on the degree of proficiency in structural and systemic formations at different levels of the language, as well as on the mastery of a set of etiquette and speech-forming formulas of the target language, necessary for the implementation of various communicative intentions.

To find out what cultural and social values are characteristic of different communities, it is necessary to understand what these communities valued, respected, honored, what they admired and for what they performed feats. As a rule, the answer to this question is contained in the multifaceted cultural heritage that humanity has left us.

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THE TECHNIQUE TO INCREASE THE CHILD'S SELF-ESTEEM AND DEVELOP SELF-CONFIDENCE

Khalilov Salokhiddin Arziyevich*; Usmanov Shavqiddin Toshmamatovich**

^{1,2}Teachers,

Department of Preschool Education of Navoi State Pedagogical Institute,
UZBEKISTAN

ABSTRACT

Self-confidence is an important quality, without which it is difficult to achieve success in life. An insecure person is afraid to take on something new, take risks, and in case of failure, start from scratch. Lack of confidence is not an innate character trait, but is a consequence of the wrong behavior of adults. How to cultivate this quality, and therefore, to make the future life of the child full and happy - in our article.

KEYWORDS: *Confidence, Success, Child, Psychologist, Special Character, Educate, Happiness, Self-Esteem.*

One of the key factors in a healthy adult personality is self-confidence. We work on it throughout our lives, but the foundation of such confidence is laid precisely in childhood.

A self-confident person knows what he is capable of, knows how to be responsible and loves what he does; he is open to the world, well-wisher and emotionally stable. To raise such a person to adulthood, you need to know how to develop self-confidence and self-confidence in a child.

Uncertainty is indicated by the child's isolation, his secrecy, excessive shyness, tearfulness, or, on the contrary, aggression, stubbornness. Parents often do not pay attention to this, considering it a manifestation of another crisis. But the child by his behavior is trying to convey to the adults that he is feeling bad and he needs help. It is necessary to identify the problem in time and start working on its elimination as early as possible. Remember, the older the child, the more difficult it is to overcome his complexes.

As a rule, at the center of the reasons that give rise to self-doubt is the attitude of adults. Namely:

- Tactlessness;
- Unflattering statements;
- Comparison with peers;

- Depreciation of needs;
- Excessive custody, intimidation;
- Manipulation;
- focusing on failures.

What you do or don't do for the child, say or don't say, how you express your feelings, influences the formation of self-esteem. We have collected several important recommendations of educational psychologists, giving an answer to the question of how to instill self-confidence in boys and girls.

What makes up children's self-esteem?

Temperament - Extroverts and introverts shape their confidence in different ways.

Basic trust in the world - is formed in the first three years of a child's life.

The climate within the family is the reliability of affection, confidence in love and care from the family.

Acceptance of any emotions and the skill of expressing them - recognizing the child's right to experience emotions those adults may not like.

Unconditional acceptance is love not as a reward, but as a permanent environment, regardless of the actions of the child.

How do you determine if you need to help your child gain self-confidence?

At each age, the signs of emotional stability and health will differ.

1-3 years old: the baby knows how to make a choice of 2-3 items; knows the rules of the family and follows them most of the time; knows how to express their desires; in an unfamiliar situation or place, he first looks out or hides, but soon begins to explore.

3-5 years: the child knows the concept of the regime and the rules and most of the time observes them; recognizes the main emotions and knows how to react to them (for example, sad - to regret); learns to express negative emotions in an acceptable way; actively imitates adults; may suffer boredom or inconvenience for a short time if he knows why; knows how to make a choice of 3-5 alternatives; knows how to communicate with children of his own age and older.

6-7 years old: able to tolerate boredom or inconvenience for a longer time; knows how to give up something pleasant for the sake of a distant bonus; recognizes most emotions and behaves in accordance with them; seeks to provide assistance to those who need it; in an unfamiliar situation, he seeks support from adults, and having received it, he acts independently; knows how to communicate with children of different ages and adults.

Since each child develops at his own pace and in his own environment, deviations of 2 points are perfectly acceptable. If there are more differences, you will need self-confidence exercises for the kids to do at home.

How to increase self-esteem and confidence in a child?

How to help regain or regain lost self-confidence is not an easy question. To achieve what they want, adults will have to reconsider their behavior, abandon generally accepted stereotypes, and follow a difficult path. Raising a confident person is not a short-term process, but constant,

painstaking work. The most important thing is to analyze your relationship with the child, remove negativity and provide the necessary conditions for development.

Unconditional Love

Without a doubt, you love your baby, and he knows about it? The child may doubt your feelings if they don't receive constant confirmation. Talk about your love more often, regardless of his behavior and shortcomings. Indeed, often, breaking a glass or getting dirty, the baby freezes in horror, thinking not about punishment, but about the loss of your good disposition. Unconditional love is the foundation of high self-esteem. A child needs to know that he is loved, even when being punished.

Fostering Independence

The sooner a child learns to cope with difficulties on their own, the more confident they will be. Parents hurrying to help an 8-year-old boy who did not share a toy with a classmate are doing him a disservice. After all, the habit of relying on others quickly takes root, turning a person into an insecure person. This does not mean that parents should ignore the child's problems. It is imperative to listen, encourage, give good advice, but he must make a decision on his own.

Organization Of The Subject Environment

Playing is the best way to develop the necessary skills, incl. self confidence. There are a huge number of manuals that help to understand the world around and to shape the psyche correctly. First of all, these are puzzle games created according to the methodology of the Italian teacher Maria Montessori. Self-esteem can be improved by:

- Sorters;
- Balancers;
- Lacing;
- Logical pyramids;
- Puzzles;
- Mosaic;
- Tangram;
- Lotto;
- Dominoes;
- Memory.

Each of the toys stimulates the child to make a decision, strive to achieve the goal. Having coped with a puzzle or having won a game of dominoes, the child feels like a winner, and his self-esteem is "off the charts". The more often he experiences this feeling, the more confident he will behave in other situations. The task of the parents is to ensure that the benefits are appropriate for the age and developmental level of the baby. After all, playing with an object intended for a child of 7 years old, at 4 years old, it is difficult to achieve a goal, which means it is difficult to add confidence.

"Correct" Punishments

No one doubts that little ones do hundreds of things for which they should be punished. For some children, a strict look is enough, for others - motivational conversation, while still others, only prohibitions on games or entertainment will help to teach good behavior.

When expressing dissatisfaction, always remember the taboos: insults, comparison with other children, screaming, physical impact. If you can't resist criticism, you need to direct it to action, not personality. When you find that your child has forgotten a toy on the playground, you should say that you do not like this act. You can't stoop to insults, like: "Your head is full of holes, you are stupid, stupid." Children are very vulnerable, impressionable people, and your words can for a long time instill in their souls doubts about their "normality".

Delegation Of Authority

One of the most effective ways to build confidence is to instruct you to do the task as you can and to praise you for doing it. It is even better if, in addition to one-time assignments, the child has permanent responsibilities. This will help your son or daughter become more responsible, disciplined, and more self-confident. For example, a child of 5-6 years old can be charged with watering flowers, changing water for a cat, pouring food for a dog, wiping off dust, helping a mother set the table, loading dishes into a dishwasher.

If you see that the baby is trying, do not forget to praise him. It is good if other family members, friends, acquaintances hear the praise. Even the simple word "well done", spoken with gratitude, can greatly increase self-esteem.

Encouraging Initiative

Often times, the child tries to show his worth and earn praise by taking the initiative. Treat this with understanding, even if the result of amateur performance is burnt scrambled eggs, a kitchen turned upside down or your favorite suede shoes spoiled with boot cream. Find out the reason for the action, assess the damage, discuss how to fix the situation. It is difficult to contain emotions, but everything (or almost everything) can be put in order, and it will be more difficult to restore the child's self-esteem. If the baby, on his own initiative, helped his grandmother to thread a needle or changed his dirty socks to his sister, praise the assistant, not sparing words of gratitude.

We have discussed just a few ways to develop self-confidence in your child. Taking them as a basis, do not forget that children always unconsciously copy the behavior of adults. Therefore, when asked how parents can instill confidence in a child, there is an obvious answer - to set the right example.

1. Active empathetic listening.

According to renowned psychologist Julia Gippenreiter, compassionate listening gives a child a sense of confidence and acceptance. If the child is depressed, upset, or sad, take pity on him, listen silently, without interfering or giving advice. If he did something unacceptable, calmly and confidently state it and explain the reason why it should not be done.

It is important to always separate the child himself and his act. We can condemn and scold what he did, but never himself.

2. Recognition of the child as a separate person.

This advice is given by the child psychologist Nadezhda Malinkina. As much as parents would like to keep their children out of problems, they cannot live their lives for them. Children themselves must make mistakes, make decisions and bear the consequences for them. They may also have feelings that are not what their parents would like.

To build self-confidence in your child, it is important to assess your expectations of your child and stop demanding that they follow the path that their parents chose for them. Sometimes it is parental ambition that interferes with the healthy psychological development of a child. This tip is especially important for school children!

3. Natural consequences: fewer words - more action.

The well-known psychologist Ekaterina Murashova adheres to this recommendation. It is difficult for young children to understand what will happen after one or another of their actions, even if they have been told this many times. This can only be remembered by personal experience. The role of the parent is to prompt, regret, and help cope with the consequences of such an experience.

I rode a scooter without protection - I hurt my knee.

I teased other children - I was left alone, no one is playing with you.

I ate too many sweets - my stomach hurts.

Didn't throw your favorite sweater into the wash on time - it remained dirty and you can't put it on.

Poorly assembled a schoolbag - the teacher scolded in front of everyone in the class.

Didn't do homework - got a deuce.

I was late home from a walk - I was left without an interesting family program.

If you want to say something to a child, say it 1 time. If necessary, explain how to do this, help and show if the child cannot cope on his own. All other requests, reminders and remarks will be perceived as "pilezh".

4. Gradual growth of responsibility.

A direct consequence of the previous advice. Nothing helps to increase a child's self-confidence more than making a decision on his own and making it successful.

Age "I myself!" - set the time in advance when the baby can do everything on his own, and you are in no hurry, and let him acquire new skills.

4-5 years - entrust your child with simple household chores for which he will be responsible. If he doesn't do them, mark it, but DO NOT do the work for him. It is important that the consequences of non-compliance are obvious: setting the table, collecting dirty dishes, hanging small linen, washing a dog's or cat's bowls, etc.

6-7 years old - just choosing from several suggested alternatives will help the child develop self-confidence, and helping in choosing family activities, preparing gifts or working together with parents develops a sense of responsibility and willpower.

5. Praise not the child, but the work; love not work, but a child.

This advice is given by the psychologists of the Rostok Child Support Center. Sometimes, in an impulse to improve the child's self-esteem, parents praise him for the slightest success. In fact, this only reduces self-confidence, because the slightest difficulty or luck will knock the child out of a rut.

It is better that the praise is sincere and touches the results of the work. "A complex drawing with an abundance of details", "The tallest tower you have ever built", "How cleverly you assembled this constructor!" are examples of correct praise.

Expressions of love and affection, on the other hand, should be directed towards the child himself, and not what he is doing. Don't compare him to anyone! Remember that a child needs parental love most of all when it least deserves it.

6. Respect each other's boundaries.

When talking about how to increase self-esteem and confidence in a child, it is impossible not to mention respect for personal boundaries. This rule applies equally to all family members and is associated with the deepest, most basic sense of trust in the world.

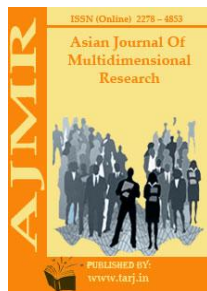
Diaries, notes, secret "secrets", closed doors to the room, personal conversations and letters - all this must remain intact.

7. Admit if you were wrong or made a mistake yourself.

Another simple exercise for self-confidence is an adult's admission of mistakes. Many children refuse to act or speak because they fear making mistakes, doing something wrong, or being the object of ridicule.

When parents openly and calmly admit that they are wrong and the mistakes they have made, children take this behavior for granted and follow the example of their parents.

Despite the variety of exercises and methods, there is no one-size-fits-all guideline on how to build self-confidence in your child. Only common work on oneself on the part of the whole family, a benevolent microclimate and sincere involvement of the child in the life of the family in a complex can help raise a person with healthy self-esteem.



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PEDAGOGICAL FOUNDATIONS OF PHYSICAL FITNESS CONTROL AMONG YOUNG MEN 13-14 YEARS

Zaripova Farida Abdullayevna*

*Associate Professor,
Doctor of Philosophy (PhD) in pedagogical sciences,
Teacher,
Department of Physical Culture of Navoi State Pedagogical Institute,
UZBEKISTAN

ABSTRACT

Physical fitness is the result of physical fitness, achieved due to the fulfillment of motor actions. Assessment of physical fitness is carried out based on the level of functional capabilities of various systems of the body: cardiovascular, muscular, respiratory. In addition, it is possible to assess the level of physical fitness by determining the level of development of physical qualities: strength, endurance, speed, flexibility and dexterity. Today, the main task of modern education is to improve the level of physical fitness and strengthen the health of schoolchildren.

KEYWORDS: *Physical Education, Result, Physical Training, Motor Actions, Young Age.*

INTRODUCTION

In many countries of the world, research is being carried out aimed at developing a methodology for pedagogical control of physical fitness of young men. This is due to the fact that it is necessary to select objective tests of physical development and physical fitness of students to optimize the motor regime of students and, in order to plan training loads in the process of physical education classes. Many foreign scientists are developing principles and methods for organizing testing of physical fitness of young men.

A set of anthropometric and morphological indicators has been developed that affect the effectiveness of testing students' physical abilities. The complexity of organizing and conducting pedagogical control requires the use of control tests, taking into account the individual characteristics of students.

The work of B.C. is devoted to the problem of physical fitness and age-related development of physical qualities of schoolchildren. Farfel, V.I. Filippovich, Z.I. Kuznetsova, A.A. Guzhalovsky and other specialists in the field of physical culture, who believe that physical fitness is an

important component of students' health, and its improvement is one of the main tasks of physical education at school. For an expedient and effective organization of physical culture lessons, it is necessary to have true information about the level of physical fitness of schoolchildren at each stage of their education. The availability of this information, especially at the stage of the formation of motor functions, is of great practical importance. Therefore, the assessment of the effectiveness of physical education at school should be made, on the one hand, according to the state of health of students, and on the other, according to the level of development of basic physical qualities, i.e. according to the level of physical fitness of students. The physical condition and working capacity of schoolchildren change under the influence of the external environment, physical education classes. In this regard, timely control and assessment of the preparedness of schoolchildren make it possible to rationally build the educational process and determine its effectiveness.

In our country, separate experimental and methodological developments are being carried out on the organization of the educational process in general education schools, providing for the formation of the necessary fund of motor skills and abilities in schoolchildren, the creation of the basis of the basic physical fitness of students. At the same time, the one-sided conduct of pedagogical control in schools shows that not enough attention is paid to its varieties, and in this regard we have to solve a number of problems. "Our youth has a solid and high intellect, spiritual potential, which can compete in the world on an equal footing and be happy. For this, our state and society must spend all their strength and capabilities. " [1]

Especially, when carrying out pedagogical control of physical fitness of 13-14 years old boys, it is important to develop regulatory requirements, taking into account their individual characteristics.

According to a number of scientists, motor training is an important remaining part of students' health, and its improvement is the main task of school physical education. For a purposeful and effective organization of physical education classes, it is necessary to have reliable information about the physical fitness of students at each stage of training. The presence of such data is of high practical importance, especially at the stage of the formation of motor functions. Therefore, the assessment of the effectiveness of school physical education should be carried out, on the one hand, according to the state of health of students, and on the other, according to the level of development of basic physical qualities, i.e. according to the degree of development of physical fitness of students. In this regard, timely pedagogical control and assessment of the preparedness of young men make it possible to rationally build the educational process and determine its effectiveness.

Purposeful study of the system of pedagogical control of physical fitness of young men is important for improving the physical education of the younger generation.

Senior school age is characterized by the continuation of the process of growth and development, which is expressed in its relatively calm and uniform course in individual organs and systems. At the same time, puberty ends. In this regard, sexual and individual differences are clearly manifested both in the structure and in the functions of the body. At this age, the growth of the body in length and an increase in its size in width, as well as an increase in weight, slow down. Differences between boys and girls in body size and shape are maximized. Boys surpass girls in height and body weight. Boys are on average 10-12cm taller than girls. and heavier by 5-8 kg. The mass of their muscles in relation to the mass of the whole body is 13% more, and the mass

of subcutaneous adipose tissue is 10% less than that of girls. The torso of the boys is slightly shorter and the arms and legs are longer than those of the girls.

In older schoolchildren, the process of ossification of most of the skeleton is almost completed. The growth of tubular bones increases in width and slows down in length. The chest develops intensively, especially in young men. The skeleton is capable of withstanding significant loads. The development of the bone apparatus is accompanied by the formation of muscles, tendons, ligaments. Muscles develop evenly and quickly, which increases muscle mass and strength. At this age, there is an asymmetry in the increase in muscle strength of the right and left half of the body. This implies a targeted impact (with a large bias on the left side) with the aim of symmetrical development of the muscles of the right and left sides of the trunk. At this age, there are favorable opportunities for developing muscle strength and endurance.

In girls, in contrast to boys, there is a significantly lower increase in muscle mass, the shoulder girdle lags noticeably in development, but the pelvic girdle and pelvic floor muscles are intensively developing. The chest, heart, lungs, lung capacity, respiratory muscle strength, maximum pulmonary ventilation and oxygen consumption are also less developed than in young men. Due to this, the functional capabilities of the circulatory and respiratory organs are much lower in them.

The heart of young men is 10-15% larger in volume and mass than that of girls; the pulse is less frequent by 6-8 beats / min., the heart contractions are stronger, which leads to a greater release of blood into the vessels and a higher blood pressure. Girls breathe more often and not as deeply as young men; the vital capacity of their lungs is about 100 cm³ less.

At the age of 15-17, the formation of the cognitive sphere ends in schoolchildren. The greatest changes occur in mental activity. Children of senior school age increase the ability to understand the structure of movements, accurately reproduce and differentiate individual (power, temporal and spatial) movements, and to carry out motor actions in general.

High school students can show a fairly high volitional activity, for example, perseverance in achieving a goal, the ability to be patient against the background of fatigue and fatigue. However, girls' courage decreases, which creates certain difficulties in physical education.

The study of scientific and methodological literature allows us to state that some of the exercises that teachers use when assessing the physical fitness of schoolchildren has not been tested for compliance with the requirements of the standardization criterion. At the same time, many aspects related to the assessment of students' physical fitness remain insufficiently developed. These include, in particular:

- Lack of a clear understanding of the importance of height and weight indicators in various motor tasks;
- The influence of age-related characteristics of somatic indicators on the effectiveness of tests has not been sufficiently studied;
- Many recommendations for assessing the physical fitness of students do not have sufficient experimental justification;
- Lack of a unified normative base for assessing the level of physical development and physical fitness of young men;

- The influence of morphological signs on the level of physical fitness has not been sufficiently studied.

Systematic physical exercises increase the adaptive reactions of the body, cause its proper functioning. Reactions to physical activity do not go unnoticed: they are accompanied by specific trace shifts (trophic processes), on the basis of which there is an increase in the structural, energy, and therefore functional resources of the body. This is an important factor in increasing the reliable functioning of the physiological systems of the body, which, naturally, becomes especially important during the development of age-related changes. Provides structural and functional improvement of blood circulation and enhancement of the trophic functions of the nervous system, the creation of a sufficient supply of energy, an increase in the capillarization of the skeletal and cardiac muscles.

The functional reserve increases, adaptation to loads, accelerates recovery. The faster the recovery, the more the body has the strength to perform the subsequent work, therefore, the higher its functionality and efficiency, i.e. the operating time is increased and the operating time is shortened. When doing physical exercises, positive emotions affect the neuropsychic tone, which, in turn, affects the heart rate. In adolescents engaged in physical exercises, there is a decrease in the resting heart rate, because As a result of training, there is an addiction, adaptation of the body to physical activity, respectively, the depth of breathing at rest will be greater, and its frequency is less frequent, which indicates an increase in VC. The psychomotor function develops (speed and accuracy of movement). As a rule, those involved in sports are ahead of their peers in physical development.

In sports practice, the effectiveness of an athlete's technique is monitored and evaluated by its effectiveness, stability, variability, and economy; minimal tactical information content for the opponent. The effectiveness of the technique is determined by its compliance with the final results, compliance with the level of all aspects of preparedness. The stability of the technique is associated with its opposition to the unaccounted for objective and subjective factors, independence from external conditions and the athlete's functional state.

It should be borne in mind that modern training and especially competitive activity is characterized by a large number of confounding factors (fans, judges, etc.). The ability of an athlete to maintain the basis of the structure of sports equipment in extraordinary conditions is the main sign of stability and determines the level of technical skill.

The variability of the technique determines the athlete's ability to operatively correct motor actions, depending on the conditions of the competition. Scientific analysis and sports practice show that the desire of athletes to maintain the temporal dynamic and spatial characteristics of movements, that is, the stabilization of the technique does not lead to high results.

Consequently, the purposeful variability of the athlete's technique provides a decrease in the effect of hindrances to stabilize the result, and this also increases the reliability of the exercise. From this point of view, it is fair to talk about the variability that stabilizes the athlete's technique. It has been established that the variability of technique is of greater importance in sports with an acyclic nature, when a technical action is used in a shortage of time, active counter-action of opponents, etc.

The efficiency of the technique is characterized by a reserve of energy, that is, by the recuperation of energy when performing the technique of physical exercises, by the expedient

use of time and space. All other things being equal, the technique is effective, which is accompanied by the coefficient of the efficiency of the technique, the least stress of the physical and mental capabilities of the athlete, that is, the higher the energy consumption, the lower the efficiency of the motor action.

The use of such variants of the technique allows you to significantly intensify the training and competitive activity. The value of the minimum tactical informativeness of the technique for the opponent is the optimal criterion for evaluating the effectiveness in acyclic types of exercise.

The only technique that can be perfect here is that it allows you to mask tactical strategies and act suddenly. Therefore, a high level of technical mastery implies the presence of an athlete's ability to perform such movements, which, on the one hand, are sufficiently effective to achieve the goal, and on the other, do not have clearly expressed informative techniques that unmask the athlete's tactical strategy. The technical skill of an athlete is largely determined by the ultimate goal, to the achievement of which the corresponding motor action is directed. This end goal is not the same in different sports.

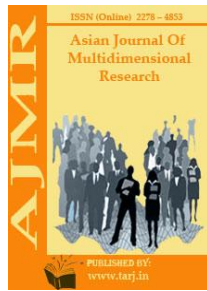
So, sports equipment in high-speed power sports is associated with the creation of prerequisites for the development of maximum power indicators and with the effective use of functional reserves, external forces and energy for this. Improving the technique of physical exercises in cyclic sports, requiring the display of endurance, requires high efficiency of standard, repeatedly repeated stable actions. In complex coordination types of exercises, technical mastery is assessed by the complexity and beauty of movements, their expressiveness, since it is these criteria that establish the level of sports results. Technical mastery in sports games and martial arts is associated both with the range of the technical arsenal and with the athlete's motor experience to choose and implement the most effective and rational motor actions in extraordinary conditions with insufficient information and an acute shortage of time.

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FIRE SAFETY

Atajonova Odina Ikromjonovna*; **Abdurakhmanova Sayyorakhon Ruzaliyevna****

Senior Lecturer,
Teacher,

Fergana Region Department of Emergency Situations,
Life Safety Training Center, UZBEKISTAN

ABSTRACT

In this article, fire safety, how to remove them, the month of fire safety, fire safety rules, regulations and other documents on the basis of which are listed. Professional Fire Protection, in turn, provides services to militarized (provides services to large cities and important entities), non-militarized district centers and large industrial entities, and the network is divided into types (provides services to some associations and enterprises). Professional Fire parts are organized in large industrial enterprises.

KEYWORDS: *Fire Safety, Fire Protection, Firefighting Techniques, Water, Carbon Dioxide, Inert Gases, Inhibitors, Powder Compounds.*

INTRODUCTION

Fire causes material damage to the national economy. In a few minutes or hours, a huge amount of folk wealth is burned and turned into ashes. Smoke, carbon dioxide and other harmful odors, as well as gases that decompose during a fire, rise into the atmosphere and destroy the composition of the air. It also causes injuries, even death, in people. All this necessitates the study of fire fighting measures and methods of safe performance of work in combination with labor protection.

At present, a number of works have been carried out in the textile enterprises of the Republic on reducing the fire safety. In particular, the enterprises are using electrical equipment that reduces the risk of fire and works completely at risk. engine optimized integrated and automated fire extinguishing systems are increasingly being used.

But it is important to remember that the main responsibility in the prevention and firefighting of fires falls on people and depends on the full implementation of all the requirements of their fire extinguishing techniques. In textile enterprises, these activities must be carried out in an orderly manner, on the basis of the regulations on fire equipment, fire safety regulations, certificates and other documents.

Every citizen of our republic should keep public and state property in the frame of his eyes, take care of preserving it, enrich it, and firefighting activities are carried out with the participation of every worker in the workshops, relying on the general public. The organization of Fire Protection is divided into professional and voluntary types.

Professional Fire Protection, in turn, provides services to militarized (provides services to large cities and important objects), non-militarized (provides services to district centers and large industrial objects), and the network is divided into types (provides services to some associations and enterprises). Professional Fire parts are organized in large industrial enterprises. Service of Professional Fire components for categories A, B and V (belonging to Category V of textile enterprises) in accordance with the "general plans of industrial enterprises" QM and Q 11-8980 on fire risk of production is 2 km. must not exceed. These parts are usually placed outside the territory of the enterprise.

Fire Protection and object protection services in institutions with low fire risk and in smaller enterprises are added together. Organization of Fire Protection in textile enterprises and warning of fire exit it is forbidden to carry out propaganda and propaganda work in connection with the storage of firefighting equipment and weapons in combat condition, active participation in extinguishing them in the event of fire, preservation of public property.

Organization of work to ensure fire safety in enterprises, institutions and organizations

It is possible to successfully combat fire in enterprises, institutions and organizations, provided that the majority of workers, servants and engineer-technical personnel are involved. For this, a fire-technical commission is formed on each object. The commission is headed by the Chief Engineer, Technical Leader or leader in the first place, their task is as follows:

- To identify violations of the rules of fire prevention and the shortcomings that lead to the emergence of fires, to develop measures to eliminate them;
- To develop an objective fire prevention procedure and participate in their implementation;
- Carrying out public disclosure work on the order and rules of fire prevention among the workers and engineer-technical personnel.

In order to carry out these tasks, the fire technical-commission will examine the production rooms, electrical equipment, ventilation, heating systems, etc., determine the violations of the rules and determine the deadlines for their elimination; conduct conversations, lectures on the topics of fire prevention among workers; participate in the development of topics for rationalizers and inventors; engage the general public in the examination of the

Fire Protection in the enterprises of the silk industry is assigned the following tasks:

- Carry out the Prevention of June every day;
- Development of measures that do not allow the emergence of fires;
- To provide and conduct training for workers, engineers and technical personnel on fire fighting;
- Control the status of all fire fighting systems and devices, as well as fire, communication and alarm systems;
- Burning objects in the guarded object and extinguishing the fire.

The reasons for the occurrence of fires that occur in production can be divided into two types.

1. A situation in which the flame source cannot be removed from the technological process of production, and in the workshops accumulates combustible or explosive substances. For example, in a Make-Up Factory, the process of burning the feather of the fabric is carried out at a high temperature, that is, the burning surface is drowned and the fabric is transferred at a speed of 100 μ min. If any of the moving parts of the machine stops, or the fabric is slightly, but accumulates, it can immediately ignite and ignite.

2. A situation in which it is impossible to exclude combustible or explosive substances from the technological process of production and the use of a source of ignition is allowed. It is natural, for example, to accumulate a large amount of cotton and fabrics in raw materials and finished products, in the shops of tobacco-savaş. But in these rooms, a fire can occur if an open source of fire is used without certain precautions.

The causes of fires, characteristic for textile enterprises, can be classified as follows:

- Violation of the technological process;
- Failure to comply with the rules of technical use of machinery and apparatus;
- Violation of the rules of storage of raw materials and finished products;
- Unsatisfactory operation of machinery and apparatus aspiration and dust air purification systems;
- Improper installation and improper use of electrical equipment;
- Unsatisfactory Organization of dust cleaning works in production shops and on the territory of the enterprise;
- improper handling of work related to the flames in production shops and in the yard of the enterprise;
- Technical satisfaction of firefighting and notification vehicles;
- Unsatisfactory readiness of employees and employees of the enterprise, as well as volunteer firefighting teams.

Classification of enterprises on fire risk is of great importance in the process of their design, reconstruction and expulsion. Also the degree of Fire Resistance plays an important role in the number of floors, the correct choice of distances between buildings. Depending on the category of fire risk of the enterprise, the degree and size of fire resistance of the building, it is possible to choose the necessary water consumption to the internal and external fire-fighting water supply system, types of heating, ventilation and air conditioning, water supply, lighting, electric circuits and fire extinguishers.

In order for the combustion process to stop, an oxidation-recovery exothermic chain reaction must be formed. In this reaction, both physical and chemical methods of stoppage are used. Physical methods: to remove the flame from the surface of the combustible substance, to reduce the surface temperature of the combustible substance from the heat of ignition, to reduce the concentration of the oxidizing agent (oxygen) (most often on account of increasing the concentration of non-combustible gases) and to isolate the oxidizer with the combustible substance from each other. Chemical methods are carried out on the account of braking the combustion reaction.

Firefighting vehicles are mainly divided into three groups:

- 1) By the method of finishing the combustion – seller, mixer ixotalizer, inhibitor;
- 2) By electrical conductivity – electric current conductor (water, steam, foam), electric current-proof (gases, powder compounds);
- 3) By toxicity – poisonous (Freon, brilil), less toxic (carbon dioxide, nitrogen), non-toxic (water, foam, powder compounds).

Water: Water is the most common substance in firefighting. Due to its following properties, it is most preferable to extinguish the fire. When the heat capacity falls on a large, burning surface, it absorbs its heat. Water falling on high-temperature surfaces quickly evaporates. As a result of evaporation, its volume increases by 1700 times and temporarily reduces the amount of oxygen in the air by covering the burning surface. The property of water to humidify the surfaces plays a big role in the non-proliferation of fires. Since its surface tension is small (0,073 ngm), it quickly penetrates into the cracks and holes of the burning substances and cools them.

Carbon dioxide: Directing carbon dioxide gas to the area where it fires, the fire is extinguished by reducing the amount of oxygen contained in the air there. If a decrease in the amount of oxygen in the air by 15% is achieved, burning slows down. Carbon dioxide gas can be supplied to the fire furnace in the gaseous state or in the case of liquefied carbon dioxide fire. Liquefied carbonate dioxide in the fire extinguisher, it reacts with air and forms a snow-white substance with a temperature of -70°C , which well cools the Moss of the burning material.

Inert gases: Nitrogen and argon from Inert gases are used in extinguishing fires. They also reduce the amount of oxygen in the air, like carbon dioxide gas, by mixing, and this leads to a fire extinguisher. These gases are not effective in carbon dioxide gasification.

Smokeless gases: Smoke is slightly less than oxygen air in gases, accounting for about 18-19%. If these gases are burned to the end, it is possible to lower the oxygen content in them by 5-6%. Such gases can be used freely when extinguishing a fire. The use of jet propellers of aircraft that have passed their working life in the fire brigade is also allowed. These are installed in fire extinguishers and smoke gases are directed along the fire surfaces along with the flow of water.

Inhibitors: Galloided carbohydrates stop the fire by acting on the combustion reaction through a chemical attenuator. These are much more effective than inert gases. For this purpose, brominated ethyl, brominated ethylene, dibrometraftoretane, freon (114 B2) are used. Freon is 20 times more effective than water vapor, 12 times more effective than ughlerod oxide. Galloided carbohydrates come hand in hand, especially when choking cotton pulp and wiping the fiber. It does not conduct electric current and does not freeze in cold weather. Their affordability does not allow a wide application. In addition, the heat of boiling (38-980S) and its volatility prevent the application in extinguishing fires in open areas.

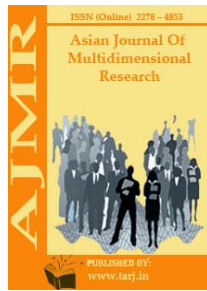
Powder compounds: Powder compounds are used in the circuit of electrical equipment, in which there are burning gases, light flammable, flammable liquids, under voltage. They are increasingly used because of their cheapness. The main part is a phrase from sodium carbonate.

SI-2 powder is used when extinguishing metallic compounds. The main part of it is made up of slime particles, which are impregnated with freon (114 B2). After falling into the fire, Freon, which acts as a powerful inhibitor (inhibitor), is released from the powder particles into the flame.

Foam: As soon as the foam falls on the burning surface, it is removed from the coating, blocking the access of oxygen, and the resulting liquid cools the burning surface. Foam is used mainly for extinguishing solid substances and flammable liquids. According to its appearance, there are two types: chemical foam, which occurs as a result of the mixing of acid with an air-mechanical and alkali solution, which is obtained by mechanical mixing of the foam-forming mixture with airflow.

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IDEOLOGICAL FACTORS OF ELIMINATING THREATS TO NATIONAL SPIRITUALITY

Nabiev Bekzod*

*Researcher,
Namangan Engineering Construction Institute,
UZBEKISTAN

ABSTRACT

In this article highlights of ideological factors of eliminating threats to national spirituality globalization and it's effect to the national spirit, the spiritual consciousness of the threat types, its specific characteristics and as well as different forms of prevention and methods of restraining how to resolve the ideological threat in the process of globalization.

KEYWORDS: *Idea, Spirituality, National spirituality, Ideological Process, Information, Internet, Spiritual threats, Information threats, Pop Culture, Spiritual Crisis.*

INTRODUCTION

At the present stage of development, contemplation of the spiritual world of Man and society has become the most urgent problem. Because the use of mercenary goals from the results development is gaining a huge scale. In this sense, it is necessary to study in detail the problem of spiritual threat. "The 21st century, along with the opening of new horizons before humanity as a century of potential, thinking and spirituality, is also bringing about acute problems that we have not seen before".

Proper understanding of the features of Idea and ideology in the quality of a social phenomenon allows a deeper understanding of the essence of ideological processes. The concept of an ideological-ideological process expresses an inalienable unity of stages associated with the formation, development and spread of a system of certain ideological views. Ideological-ideological processes have a variable character, are determined by outdated views, evaluations, abandonment of goals, some kind of rule, principle, revision, improvement of instructions and the emergence of new approaches and interpretations in accordance with reality.

The most dangerous of the threats that are happening to humanity today is this spiritual threat. "When referring to the spiritual threat, it is necessary to refer to ideological, ideological and informative attacks, which, first of all, are directed against the existence of any person as a free person, regardless of language, religion, religion, and belief, and which are intended to derail his

or her spiritual world". This definition attracts attention in several aspects of its own. According to him, the moral threat has the following characteristics:

- a) Does not choose a language;
- B) Did not choose religion;
- c) Does not choose.

It is noteworthy that spiritual threats are created only by man and are harmful only by his aggression against man. Also, the specific features of spiritual threats include:

First, spiritual threats are a complication of an unhealthy lifestyle;

Secondly, spiritual threats are a set sub-factors that express the vices of spiritual and moral inferiority;

Thirdly, spiritual threats are aimed at disrupting the life of society through the violation of moral consciousness of a person, spreading an unhealthy lifestyle.

There are various means that affect and threaten a person morally. Among these, the following factors, unnoticed, but strongly negative to the human psyche, are considered dangerous:

- Influence with sound;
- Influence with speech;
- Falsification of information;
- Diversion;
- Formation of consciousness according to plan;
- Interaction with noise;
- provide a tactile effect;
- Interaction with electromagnetic;
- Infrastructure processing;
- Application of psychotropic substances;
- Teach effect (diet, seduction, obesity, drinking);
- Influence with bioenergy (hypnosis, etc.). The task of negatively affecting the psyche can perform various things. For example, a simple TV can distract the consciousness of a person by means of different colors. As a result of this, there is an ideological panic in the minds of the people. Ideological panic is the presentation of problems with the aim of intimidating the population with the threat of undermining the existing state of peace in this society. According to Stanley Cohen, author of the work "folklore(local) demons and ideological panic", the ideological panic occurs as a result of the emergence of groups of people or groups of people, a situation in which the values and interests of society pose a threat and fear, an event, a threat to society, cultural values are "folklore demons".

Consequently, any aggression directed against spirituality, the threat itself to the crisis of national spirituality, the security of the country, its national interests, physical and spiritually become one of the serious risks towards ensuring the future of a healthy generation, and

ultimately can lead to a crisis in society. In this regard, it is worth noting three types of spiritual threat.

1. Ideological threats. These threats are distinguished by their wide coverage and far-sighted nature. It is possible to include in it such as discrimination of national values, ignoring moderate views and instead of walking to a certain ideological center, denying the rules of national morality, propagating yacht and alien ideas, worldview as an absolute truth.
2. Committed threats. Threats of this type differ in the fact that a person seeks to form alien ideas, views and purpose-provisions in the spiritual world. This includes such ideas as moral corruption, violence, egocentrism, individualism, "mass culture", the emergence of nation conflicts, economic tension, poisoning the minds of young people.
3. Information threats. This type of threat seeks to incorrectly form the social consciousness of a person and thus to content a crowd that does not have its own. Such threats are carried out mainly through the Internet system, as well as information attacks such as deliberate criticism of the national policy of the state, the dissemination of fake messages, the abduction of opponents, the diversion of young people. The essence of the threats directed against national spirituality and the possibilities of influence can be divided into internal and external.

The internal threats directed against national spirituality are actually influenced by a number of spiritual factors, such as the inherent "skill" of a person, "interest", "self-esteem", "manhood", inability to overcome socio-economic insufficiency, or a strong tendency to live a light life. Internal threats are even more dangerous than external threats with their coverage and the negative consequences they bring. Inhuman behavior, behavior, charisma, works, pride, self-esteem, self-esteem, greed, famine, repugnance, betrayal, which is allowed in a transparent and Mahogany Way with the mood of "being myself", seeing the self-interest, soul and soul, are different manifestations of spiritual threats. Its dangerous aspect is that it absorbs the nation from within, causing conflicts even between representatives of a single nation. In this way, it will allow instability to arise in the country and, as a consequence, the external threats to seize the life of the country.

Today, among the external threats to the absorption of national spirituality, it is possible to include globalism, ideological assaults, information attacks, "mass culture", outbreaks of various diseases, widespread use of drugs, trafficking in people, etc. The forces that pose such threats are currently using various methods and means of deception in the fight against national spirituality, exploiting the material, technical and technological opportunities that exist in their own interests, regardless of how much money is invested. The analysis of this process shows that the possibility of polishing them is not always present. Although they are not visible from the outside, they are practically expressed in the processes taking place in the national spirituality, their consciousness, and worldview, heart, penetrating into the "blood", occupying the botanic and apparent image of the whole nation.

The main thing is that we must understand that the prevention of internal threats, rather than the external threats that are directed against our national spirituality, is becoming a task in the first place. Because in order for the nation to be spiritually energetic, it must first of all be free from any internal threats. The strength to prevent the threat of any external threats in a nation that has been subjected to internal conflicts will also be strong, and the potential for awareness will increase.

An important factor in the preservation and enrichment of national spirituality is the spiritual heritage left from ancestors. Because when a nation is a maple, its root, the base, the source of power that holds its destiny and makes it adult, aware of all kinds of dangers, is its heritage and historical memory. As a nation, a nation restores its heritage and historical memory, it becomes spiritually energetic, receives inspiration from it, becomes spiritually rich, seeks independence and lives, and its activity naturally increases. Indifference to him leads to the plight of internal and external threats, a meeting of national spirituality with degradation.

Also, in the prevention and elimination of threats to national spirituality, the following are of great importance:

To identify and take measures to eliminate the external spiritual, political and economic threats coming from the outside world as soon as possible during the period of "reckless development";

Further improvement of the legal basis of combating them, development of new normative legal acts and its implementation;

the development of the norms of the nation, the moral and moral norms adopted in the society of the people, the principles of cultural development, the promotion of them among all citizens, especially young people, the further study of the work of propaganda;

All citizens of our country against various negative information coming into our country through Internet and foreign media to fight jointly;

The formation of "ideological immunity" against internal and external spiritual threats;

Formation of young feelings of love and affection towards our national spirituality, spiritual heritage and history in the minds of our people;

It is necessary to constantly be alert and attentive to the events that are happening in the environment, to express our independent opinion.

So, the internal and external threats to our national spirituality today have a great impact on the life of man and society, the development of our country. "At present, in a situation where deep changes are taking place in the field of geopolitics, economic and social, information and communication of the world in our eyes, the dispute of different ideologies is taking a sharp turn, it is clear that we all have a more important role than ever before to fight against the idea, the idea against the idea, the general terms, I believe that the fight against threats should add the following factors:

-The need for a nationwide political leader;

-Make a clear decision with speed;

-Rapid implementation of urgent work for national security;

- Urgently warn the world community about the essence, direction of the threat;

- To increase the activities and responsibility of the institutions of the authorities;

-To ensure nationwide mobilization against the threat;

-To explain through the media the correct and truthful information on the threat, that the threat is directed against the fate of the nation;

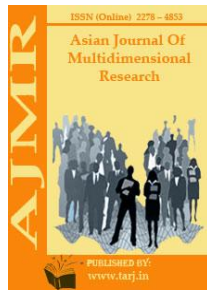
- To rely on the power of the political consciousness of the people;

- increase the overall unity, etc.

Today, a person is incapable of foreseeing what kind of result the discoveries and inventions he has made in the future. The globalization of ideological processes poses a threat to the weakening of the peculiarities of national development and its absorption into the “mass spirituality”, which the highly developed countries form in harmony. Although globalism is the product of human potential and selfless labor, today it is weak to its spiritual impoverishment, the prevention of national spirituality degradation. Mankind is becoming the creator of the occurrence of negative consequences, not wanting it himself.

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SOCIO-MORAL AND MORAL ASPECTS OF THE FORMATION OF A CIVIL POSITION IN YOUNG PEOPLE

Qurambojev Alisher Makhsudovich*

*Lecturer,

Bukhara State University, UZBEKISTAN

ABSTRACT

The main purpose of this topic is to enlighten how the youth activity is important in the restoration of civil society. After all, civil society can be restored with the help of citizens with a high level of civil consciousness and activity. Even today, youth activity plays an important role in various countries experiencing socio-political changes and, more precisely, civil society is recovering.

KEYWORDS: *Youth, Youth Activity, Youth Policy, Spiritual And Educational Work, Civil Society.*

INTRODUCTION

The main essence of the reforms aimed at the renewal of the country in the Republic of Uzbekistan and the restoration of a strong civil society is expressed in the high level of political and legal culture and level of youth, in the formation of a clear civil position in them. After all, the head of State of the Republic of Uzbekistan SH.Mirziyoyev noted in his work “free and prosperous, democratic Uzbekistan will restore the state together”: “we will continue the state policy towards young people with no deviation and determination. Not only will we continue, but we will also raise this policy to the highest level that today requires. We will mobilize all the forces and opportunities of our state and society to ensure that our young people are independent-minded, have a high spiritual and spiritual potential, grow to their peers on a global scale as people who are not idle in any sphere and are happy.”[1.,14-page]

Systematic work is carried out in our country aimed at creating all the necessary conditions for the harmonious upbringing of the younger generation, their independent steps into life. In recent years, in order to strengthen the legal framework of the state policy on youth, the law of the Republic of Uzbekistan “on state policy on youth” has been adopted. Five important initiatives are being implemented, which include the broad involvement of young people in culture, art, physical culture and sports, their literacy in information technology, promotion of reading among young people, women's employment. Clever, our first President I.A.Karimov stressed in his

“high spirituality is a work of invincible power” as follows: “all the work we are doing today is carried out for the happiness of our children, for their bright future. But happiness is happiness is only wealth, property is not determined by it. A decent, educated and intelligent, hardworking, faith-loving child is the greatest wealth not only of parents, but also of the whole society. Proceeding from this fact, I would like to wish all of us today to become not only our main task, but also our human duty, to educate our youth in all respects healthy and harmonious, to strengthen the family, which is a stronghold of spirituality, which ensures the eternity of life, the continuity of generations.”[2.,35-36 pages]

As long as we have set ourselves a great goal in front of us in restoring the foundation of the third renaissance in our country, we must understand well that for this we need to create an environment and conditions that will bring up young people. To this end, we must have the highest priority task for all of us – to create wide opportunities for our young people to achieve their goals and to provide comprehensive support. In addition, there are not even a number of problems in the formation of a strong patriotic idea in the younger generation, as well as a strict civil position, in order to ensure their employment by the formation of modern entrepreneurial skills and the creation of new jobs in young people, effective organization of the profilactics of offenses and crime among minors, prevention of family The world's ideological and ideological struggles are continuing sharply, moral threats are growing, and at the present time there are still cases of neglect of national values among young people, delaying the influence of harmful foreign ideas, delaying the actions of crime and extremism. “Each stage of education and training, in turn, refers to the factors inherent in the hearts and minds of young people of national ideas.”[3., 226-page.] At the same time, to solve the existing problems, to increase the effectiveness and effectiveness of spiritual and educational work, to further expand the scope and scale, to bring a sense of immunity to the reforms carried out in the hearts of the population of the country, first of all, young people, in order to create a single system of coordination of works in the field, the resolution of the president of the Republic of Uzbekistan dated March 26, 2021 “on radical improvement of spiritual and educational work PP-5040” was of great importance in solving problems in this field. In order to solve the existing problems, to increase the effectiveness and effectiveness of spiritual and educational work, to further expand the scope and scale, to give the population of the country, above all, a sense of belonging to the reforms carried out in the hearts of young people, to create a unified system of coordination of work in the field:

“The following are the priorities of radical improvement of the system of spiritual and educational work:

- To transform the healthy worldview and creativity in the society into a national movement by widely promoting the idea of “national revival - towards the rise of the national” based on the principle of humanism and humanism;
- Ensuring the continuity of spiritual education in the family, educational organizations and neighborhoods;

Organization of work in the direction of propaganda, propaganda and education on a scientific basis, increasing the effectiveness of scientific and methodological research in the field, introduction of a permanent monitoring system aimed at strengthening the stability of the socio-spiritual environment;

- Implementation of measures aimed at eradicating such vices as indifference to the fate of the country, localization, seed, corruption, indifference to family values and irresponsibility of youth education;
- Increase the culture of the population using the internet world information network, ideological immunity against ideological and information attacks;
- Achieve the priority of cultural, literature, cinema, theater, music and all kinds of art, publishing and printing products, moral and moral criteria in the media, national and universal values;
- Regular study of geopolitical and ideological processes, effective ideological struggle against terrorism, extremism, fanaticism, trafficking in human beings, drug trafficking and other dangerous threats, and development of international cooperation in this regard.”[4]

In this regard, these words of our first president are of great importance: “at the moment, situations related to the perception of dirt as a culture and, on the contrary, ignoring the original spiritual values and the view that it is an old sarcophagus pose a great danger to today's progress, human life, family stability and the education of young people, and many when thinking about this, I know that it is appropriate to recall that our great ancestors developed in their time a whole set of moral criteria about a perfect person, the eastern code of ethics, as they say in modern language. In the minds of our ancestors, such a high moral feeling and understanding as shame, shame and anxiety, shame, and chastity, formed and polished for centuries, thousands of years, constitute the main connotation of this code, I think we will not be mistaken.

From this point of view, it is clear that the words "shame is hard from death" do not arise spontaneously in the language of our people, on the contrary, such phrases express the original meaning of the noble and beautiful moral values that belong to our country.[5.,73-74 page]

Further expansion of the rights of young people in conditions of formation of the foundations of civil society requires not only to be responsible to state bodies, educational institutions, but also to increase the level of activity of public organizations and other non-governmental structures, while deep understanding of the duties and responsibilities in ensuring the life of the state and society, its how is it necessary to establish a state organization engaged in youth affairs in Uzbekistan today, where important steps are being taken to move from a strong state to a strong civil society? In our opinion, since young people are the main stratum of 64 percent of the country's population, which is 17 million, it can be said that the problems with young people are of particular importance in the policy pursued by the state. In short, among all spheres in society, the organizational reform of youth organizations, the formation of a solid institution with a modern criterion of activity in this regard - an important factor in ensuring the future of youth, being the owners of tomorrow's day. All conditions are created in our country for the younger generation to grow on the basis of high spiritual criteria. Today, we see what sphere of life of our country you are taking – in the sphere of health, education, economy or small business, in the sphere of leadership, culture and sports, the rights and interests of young people are getting special attention in all of them. Never educate a perfect person without spirituality. Because the spirit of ancestors, which is necessary for man at every step of his life, national pride and pride, love for a beautiful motherland, respect for parents, loyalty to independence, a sense of childhood, human qualities are absorbed into his conscious thinking through spirituality, becomes the meaning and meaning of his life. It is known that in youth a person becomes inquisitive and aspiring. Directing these aspirations towards spiritual perfection is a decisive and

urgent issue in ensuring a bright future not only for young people, but also for society as a whole. After all, spirituality has long been an incomparable blessing that leads a person to perfection. In this sense, even now, we will not be mistaken if we say that spirituality is a savior power, spirituality gives light to a person. Especially when it comes to young people who are stepping into life with great hopes, looking at it only with a pure and unselfish glance, looking forward, this reality acquires a more profound meaning.

In conclusion, I can say that as a result of the wide-ranging reforms and creative work carried out in our country with the initiatives of our compatriots today, the consciousness, outlook of our youth, people are changing. In the restoration of the legal state and civil society in our country, the importance of the life - giving idea “from the national revival-towards the national upsurge” is increasing. In conclusion, the formation of a sense of loyalty to the motherland in the younger generation, ensuring the joint activities of families, neighborhoods, educational institutions and various social institutions in order to make them mature in every possible way and to bring them to adulthood is the basis for the restoration of a free and prosperous and prosperous life.

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THEORETICAL CONCEPTS OF RESONANCES AND CHARMING PARTICLES IN NUCLEAR PHYSICS AND THEIR SCIENTIFIC ESSENCE

Chariyev Muxammadi Muminovich*

*Assistant Professor,
Termez state university, UZBEKISTAN
Email id: mchariyev@tersu.uz

ABSTRACT

The article provides theoretical information about the groups of particles that belong to the class of elementary particles called resonance and charming particles. The article also presents a theoretical analysis of particles and their new types, physical properties and features. The discovery of Δ -resonance was of great importance for the physics of elementary particles. It should be noted that awake atoms or resonances are not new objects in physics. Previously, they were known in atomic and nuclear physics, and their existence is associated with the nature of the atom (composed of nuclei and electrons) and nucleus (composed of protons and neutrons). The properties of the awakened conditions of an atom are determined only by electromagnetic interactions.

KEYWORDS: Resonances, Π -Meson, Nucleon, Isotopic Spin, Lifetime, Charming Particles, Quarks, Heavy Lepton, "Epsilon" - Meson.

INTRODUCTION

It is known that the decree of the President of the Republic of Uzbekistan "On measures to improve the quality of education and improve scientific research in the field of physics" dated March 19, 2021 PQ-5032 provides for the teaching of physics to students [1]. In this article, we have provided some theoretical information on how to convey the meaning and essence of some of the terms and concepts studied in nuclear physics in an understandable and simple way.

Resonances

In the 1960s, very unstable (relative to other unstable elementary particles) particles called resonances were discovered using accelerators [2]. The mass of most resonances is heavier than the mass of a proton. The first resonance D_1 (1232) was discovered in 1953. According to the data obtained, resonances make up the bulk of elementary particles. The strong interaction

creates a state of awakening in the nucleon, when the total isotopic spin of the p -meson and nucleon is $3/2$, and the moment is $3/2$. This condition decays into nucleons and π -mesons in a very short time (10^{-23} s). This condition has exact quantum numbers, like stable elementary particles. Naturally; therefore, this state can be called the particle state. Given that living times are very small, they can be called resonances. The nucleon resonance, discovered by E. Fermi in 1952, was later called the $\Delta_{3/2, 3/2^-}$ isobar, because the spin and isotopic spin of the Δ isobar were $3/2$.

Since the lifetime of resonances is so short, they cannot be observed directly, like protons, π -mesons and mesons (using their tracks on track instruments), which are "normal" particles. Resonances are recorded depending on the characteristic features of areas of scattered particles, as well as by studying the properties of products formed during decomposition [3-4].

Currently, most of the existing elementary particles belong to the group of resonances.

The discovery of Δ -resonance was of great importance for the physics of elementary particles. It should be noted that awake atoms or resonances are not new objects in physics. Previously, they were known in atomic and nuclear physics, and their existence is associated with the nature of the atom (composed of nuclei and electrons) and nucleus (composed of protons and neutrons). The properties of the awakened conditions of an atom are determined only by electromagnetic interactions. The low probability of their disintegration is due to the very small constant of electromagnetic interaction. Awakened conditions are present not only in nucleons (in this case we are talking about its isobar conditions), but also in π -mesons (here we are talking about meson resonances). At first, theorists could not even imagine that there would be resonances in the theory of large constant interaction fields. Later they realized that if the coupling constant is large enough, then isobaric conditions will arise. However, the essence of what resonances are for the fundamental theory remains unclear.

"Charming" particles

In late 1974, two groups of experimenters simultaneously made important discoveries in particle physics (Ting's group working on a proton accelerator in Brookhaven (USA) and B. Richter's group working on a counter-moving electron-positron device at Stanford (USA)). That is, they found a resonance (heavier than 3 masses of a proton) with a mass of 3.1 GeV. This particle is called Ψ resonance. Its decay energy is so low that it is only 70 keV, which corresponds to a lifetime of 10^{-23} s. A broad explanation of the nature of Ψ -mesons is based on the hypothesis of the existence of a fourth, s -quark, in addition to the standard three u -, d -, and s -quarks. The s -quark differs from the previous quarks by its new quantum number - "charm" [6-7]. In 1974, other massive (equal to the mass of 3-4 protons) and long lifetime particles were discovered. They are closely related to the recently discovered family of "charming" elementary particles, the first representatives of which (D^0 , D^+ and L_c) were discovered in 1976. In 1975, the first data were obtained on the existence of a heavy analogue of electrons and muons (t -heavy leptons) [8].

In 1976, Ting and Richter were awarded the Nobel Prize in Physics for the discovery of Ψ particles. In 1977, very heavy neutral mesons were discovered with a mass of the order of 10 GeV, that is, 10 times heavier than nucleons. As Ψ mesons, these mesons were called "upsilon" mesons and were observed in reactions of proton-nuclear collisions with the formation of a pair of muons.

CONCLUSIONS

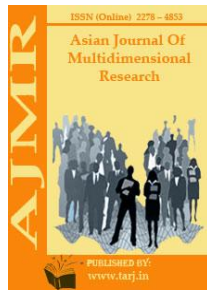
After the discovery of the electron, a large number of different microparticles of matter were discovered. Very small size is characteristic for all elementary particles: the linear size of the nucleon and the peony is 10^{-15} m. The theory shows that the size of the electron should also be in the order of 10^{-15} m. The masses of many particles are close to the mass of a proton, close to 1 GeV (MeV) in energy units.

The world of elementary particles has a very complex structure. The properties of the elementary particles found are varied. In order to describe their properties, it was necessary to introduce many new special characteristics, in addition to the characteristics derived from classical physics - the moment of electric charge, mass and momentum. In particular, to describe strange elementary particles - "strange" (introduced by K. Nishidjima and M. Gell-Mann, 1953), for charming elementary particles - "charm" (American physicists J. Bjorken, S. Gleshow, 1964); the naming of the given characteristics also reflects that the properties of the elementary particles are also unusual. The study of the internal structure of matter and the properties of elementary particles necessitated a reconsideration of some of the concepts and ideas previously introduced in the first steps. The laws governing the states of matter in the microworld are so different from the laws of classical mechanics and electrodynamics that this has necessitated the development of completely new theoretical structures for self-description. Such new fundamental structures include: special and general theory of relativity (A. Einstein, 1905 and 1916; Relativity theory, Gravity) and quantum mechanics (1924-27; N. Bohr, L. De Broglie, V. Geyzenberg, E. Shredinger, M. Born). The theory of relativity and quantum mechanics have revolutionized nature and science, and they have laid the groundwork for explaining microworld phenomena. However, quantum mechanics was no longer sufficient to describe the processes that take place with elementary particles. Then came the quantization of quantum fields (i.e., the so-called secondary quantization) and the development of the quantum theory of the field. Important stages in its development were: the formation of quantum electrodynamics (P. Dirac, 1929), quantum theory of β -decay (E. Fermi, 1934), served as the basis for the creation of a modern theory of weak interactions, quantum mesodynamics (H. Yukawa, 1935). From these theories the β -theory of nuclear forces (I.E. Tamm, D.D. Ivanenko, 1934; Strong interactions) was created as a direct follower of quantum electrodynamics. This period ended with the creation of a series computing apparatus of quantum electrodynamics (S. Tomonaga, R. Feinman, Yu. Schwinger; 1944-49). This apparatus was created based on the use of re-normalization techniques (quantum field theory). This computational technique was later generalized to other variants of field quantum theory. At present, the quantum theory of the field continues to develop and improve, and serves as the basis for describing the interactions of elementary particles. These are a number of important advantages of the theory that it is not yet complete. But it cannot yet play the role of a theory capable of explaining elementary particles in every way.

At present, many properties of elementary particles and the nature of their interactions remain much unclear. In the future, before creating a theory of elementary particles, it will probably be necessary to reconstruct all existing assumptions and gain a deeper understanding of the relationship between the geometric properties of space-time and the properties of microparticles.

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MECHANISMS FOR IMPROVING SPIRITUAL AND EDUCATIONAL ACTIVITIES IN EDUCATIONAL INSTITUTIONS

Kuchkarova Feruza Mahammatqosimovna*

Doctor of Philosophy in Pedagogical Sciences,
PhD, Senior Lecturer of the Department of Pedagogy
Andijan State University, UZBEKISTAN

ABSTRACT

The article discusses issues related to the essence and content of cultural and educational activities. The relevance of the competences of cultural and educational activities aimed at the ability to differentiate a wide field of information in modern digital reality is noted. The principles (humanism; scientific nature; the connection of cultural and educational activities with life and practice; complexity in solving educational problems), which determine the unity of enlightenment and spiritual and moral education of the individual, are highlighted. The definition of the phenomenon under consideration is given as a set of measures and actions aimed at preserving, transmitting and introducing the younger generation to the ethnic, historical experience of previous generations by means of the family, school, environment, educational projects in cultural institutions. It is shown that the introduction of students to the values of ethnic and world cultures, as well as the development of the worldview is carried out through the development of school subjects (history, geography, literature).

KEYWORDS: Culture, Enlightenment, Activity, Education, Personality, Formation, Development, Morality, Upbringing.

INTRODUCTION

The Republican Center for Spirituality and Enlightenment hosted an expanded meeting of the republican expert group on the creation of a new system in the spiritual and educational sphere, assistance in increasing the effectiveness of propaganda work at the local level.

The head of the Republican Center for Spirituality and Enlightenment Minhozhiddin Khozhimatov noted that the head of our state pays special attention to increasing spirituality as a priority task, which places great responsibility on representatives of the sphere.

In recent years, a number of documents have been adopted in our country to establish spiritual and educational work in accordance with the requirements of the time. These documents are important in the further improvement of the propaganda of spiritual and educational work.

The Republican Center for Spirituality and Enlightenment is developing measures to eliminate the shortcomings identified in the course of studying work in this area at the local level, creating new libraries, and promoting the reforms being carried out in the country. The republican expert group takes an active part in studying the state of work in the regions.

In accordance with the decree of the head of state "On measures to radically improve the system of spiritual and educational work" dated March 26, 2021, the position of a propagandist on social and cultural issues was introduced in each educational institution.

It was noted at the meeting that on the basis of the instructions given by the President in cooperation with state and public organizations, representatives of the intelligentsia, an integral mechanism of radical improvement on a scientific basis of spiritual and educational work was developed.

The new system covers issues related to the organization and coordination of work in families, kindergartens, schools, and institutions of higher and secondary specialized, vocational education, makhallas, districts, regions, ministries and departments.

The professional and personal development of a modern person is directly related to the competence in the field of cultural and educational activities. Currently, in connection with the rapid changes taking place in the reality around us, skills associated with the ability to differentiate a wide flow of information received by a person become significant.

Cultural and educational activities are based on the principles of humanism; scientific character; connection of cultural and educational activities with practice; complexity in solving educational problems; differentiated approach; collectivism; systematic and consistent; unity of enlightenment and spiritual and moral education.

The humanistic principle presupposes the organization of cultural and educational activities in accordance with universal, spiritual and moral values. Scientific nature as a principle of organizing cultural and educational activities is conditioned by interdisciplinary interaction (pedagogy, sociology, psychology, management theory and other sciences) in determining the goals, content and methods of its implementation.

The practical orientation of cultural and educational activities is reflected in various aspects of the activities of clubs, houses of culture, libraries, sports clubs, parks, museums and other institutions. The principles of an integrated and differentiated approach are closely related. The unity of the main directions of upbringing in the context of basic personality formation presupposes a complex impact.

In accordance with the psychophysiological and age characteristics of the audience, the methods of presenting cultural and educational material are differentiated. It should also be noted the principle of collectivism, which helps to consolidate and develop the collectivist skills of the individual, expressed in labor activity, responsibility, mutual understanding with others, formed in the process of cultural and educational activities.

In the mass, circle and individual forms of cultural and educational activities, the principle of systematicity and consistency is manifested, meaning a strict logical order both in the

presentation of material in lectures, reports, conversations, on the pages of oral journals, in museum expositions, etc., and in the construction of any event. The most important pedagogical regularity of cultural and educational activities, consisting in education and upbringing, in which knowledge is transformed into beliefs, and beliefs in actions, behavior, an active life position of a person, expresses the principle of the unity of enlightenment and spiritual and moral education. Along with the above, in the course of cultural and educational activities, such principles as the interest and voluntary participation of a person in events, the principle of democracies, representing the rights to rest, education, creative activity, freedom of speech recorded in the Constitution of the Republic, are also important; the principle of the all-round development of initiative and amateur performance, as well as the principle of the correspondence of content and forms to the interests and level of spiritual development of the individual.

The role and significance of cultural and educational activities in the formation of a specialist's personality are considered in the works of modern scientists Z. Kasimova, K.F. Ismailova, M. Kuranov analyzing the relevance and prospects for the introduction of interactive technologies in the implementation of cultural and educational activities, as well as media and radio broadcasting as aspects of the phenomenon under consideration.

Cultural and educational activity in our understanding is a set of measures and actions aimed at preserving, broadcasting and familiarizing the younger generation with the ethnic, historical experience of previous generations. The structure of cultural and educational activities can be presented as follows: family, school, environment, educational projects in cultural institutions (museums), libraries, electronic library resources. The works note that it is the family that determines the main trajectory of personality development, which is improved at a new level in educational institutions, supplemented with the necessary competencies that prepare a person for life in the modern world.

In the context of the problem we are considering, cultural and educational activities, the significance of which is beyond doubt, is also of an ethnic nature. Each region of the Republic has a unique historical experience and rich heritage.

The main question around which our reflection is built is what mechanisms are aimed at popularizing the historical and cultural heritage of the Chechen society and in what format is it being carried out? The dominant positions in the implementation of cultural and educational activities belong to educational institutions of secondary and higher education. Disciplines of the natural and humanitarian direction allow you to actively implement cultural and educational activities. Subjects such as literature, history, geography orient students towards acquaintance with the values of ethnic and world cultures, broaden their horizons and contribute to the development of their worldview and perception of the world. At the same time, extracurricular activities in universities and extracurricular work in schools play a huge role.

The advantage of extracurricular activities, in our opinion, is the ability to study topics without time limits and consider issues that are not included in the program for compulsory study. The organization of extracurricular work at the university is manifested in the opportunity to feel the importance of humanitarian knowledge in the context of future professional activities.

The cultural and educational space, as rightly noted in the works, contributes to "a deep rethinking of the role and meaning of a person, his recognition as the most important social value." Cultural and educational activities in the modern digital space are a process aimed at enlightening public consciousness. The forms of implementation of cultural and educational activities carried out in educational, cultural and other institutions are aimed both at broadcasting

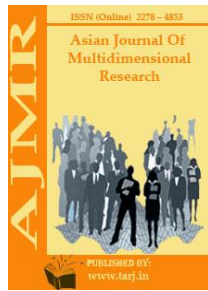
information presented in artistic images, impressions, historical artifacts, and at attracting a larger number of visitors to cultural institutions.

The essence of cultural and educational activities is to broadcast and popularize knowledge in various spheres of human life. In modern society, the functions of cultural and educational activities are expanding and acquire special significance in connection with the need to filter information received from social networks.

Therefore, the role of a teacher, educator, adult, everyone who accompanies the development of personality helps to navigate in a wide informative field. At the same time, the forms, methods, means and content of cultural and educational activities are determined by the socio-cultural context.

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TERMINOLOGY AS A STRUCTURAL ELEMENT OF THE LANGUAGE

Sultanova Zarifa Oktamovna*; Prof Gafforov Nodir Nasriyevich**

*Teacher,

Department of Uzbek Language and Literature,

**Scientific Adviser

Uzbek State University of Physical Education and Sport,

UZBEKISTAN

Email id: Zarifasultonova8@gmail.com

ABSTRACT

Present article explains the term, which is the main unit of terminology, the degree of professional communication efficiency of the use of terms in different fields of activity, the idea that this term is a specialized and specialized scientific information carrier in scientific, industrial, technical and other knowledge exchange. It is noted that in the system of terminology, each term occupies a certain place, it must be compared with the place of the relevant concept in the whole system of concepts. Outside the system, the author loses the specificity of the term, in the linguistic system (not terminology) it can express its national and cultural identity, it is an individual manifestation of linguistic meaning: polysemy, metaphor, imagery, expressiveness, emotionality, connotation, modality admits that.

KEYWORDS:*industry terminology, cognitive terminology, linguo-centric, expansionism, anthropocentrism, information content, polysemy, homonymy, synonymy, antonymy.*

INTRODUCTION

Today's science, all aspects of the development and existence of human society along with scientific discoveries is reaching the level of international and interethnic development. A significant factor in the formation of science is the integration of world scientific knowledge, which motivates us to take into account the importance of achieving a high level of objectivity and depth of research. The accuracy of language is the basis for the sciences that determine the existence of an international scientific community. It is important to keep in mind that terminology is the basis of scientific language and that it accompanies the formation of world scientific knowledge. There is speculation that the beginning of terminological activity as an independent scientific field in local terminology may date back to 1931. It's related to the publication of D.T.Lotte's first conceptual article on the problems of unification and standardization of technical terminology and technical terminology¹. Russian linguists G.O.

Vinokur and A.A. Reformasky also made a significant contribution to the history of the formation of the National School of Terminology and Terminology as a science. The research of A.F. Lesokhin and P.A. Florensky made an equally important contribution to the work of the National School of Terminology. In the terminological context of the middle of the twentieth century, the theoretical discussions that have emerged in schools of the world about the important features of the term are of particular importance. It was created on the initiative of Russian researcher and terminologist R.G Pyotrovsky. The scholars who took part in this discussion, in turn, identified the next directions in the study of terminology. D.S. Lotte, G.O. Vinokur, A. A. Reformasky was the founder of the Russian school of terminology²

When talking about Western scholars who have contributed to the theory of terminology, the name of the Austrian scholar Eugene Worster should be mentioned firstly³ Currently, a number of national schools - Austrian-German, French-Canadian, Russian, Czech - are working on theoretical problems of terminology, which differ in their approach to the consideration of a special dictionary. The Russian school is a leader in the scope and importance of research. Among the well-known representatives of modern Russian terminology is O.S. Akhmanova., S. V. Grinev., V. A. Tatarinov should be noted. In Russia, terminologists are united by the Russian terminological society Ross Term⁴

The theory of terminology has been recognized by many scholars as a separate discipline. At the same time, in the 1920s, Uzbek linguistics began to publish articles in newspapers on the development of a number of terminological dictionaries in the socio-political, military and legal spheres. In the 1930s, Ulug Tursun published the first pamphlet on the study of Uzbek terminology⁵The important role of terminology in the modern world cannot be denied, because the level of development of society is determined by the state of national terminology. It reflects the state of a particular social science and is an important part of politics, economics and culture. The term, which is a basic unit of terminology, the use of terms in different fields of activity indicates the level of effectiveness of professional communication and determines the quality of the result of joint work. The term refers to "the most important and most information-intensive carrier of specialized scientific information" in specialized and professional communication, as well as in the exchange of scientific, industrial, technical, and other knowledge. This is explained by the "nature of the information function" as a specific information carrier⁶ The conceptual meaning of a term is determined by its place in the system. The term is part of a particular terminological system and refers to a particular field of science, technology, or industry. There is a specific definition (exact scientific definition) among the terms in the same field. The same word can be used in different fields of knowledge. This is not polysemy, but homonymy (e.g., the term "taxonomy" in botany, economics, and mathematics) because the terms in their terminology are usually more specific than "everyday" words. These terms are also related to certain scientific concepts: they reflect scientific results and serve as a basic tool for research and theoretical understanding. In this regard, it is debatable whether they are included in the general vocabulary. The set of terms is an important part of the general language at the Latin and grammatical levels⁷.

They are formed on the basis of concepts and lexical-semantic relations. General theoretical and applied linguistics is an environment for the development and study of a term, as it is inseparable from national linguistic units. Analyzing the intrinsic properties of a term is studied within the framework of terminological systems, units that serve as real units of knowledge. In modern linguistics, according to such features of the term, the conformity of the concept or concept to the

deliberate consciousness, belonging to the field of special knowledge of the term, accuracy, correctness of meaning, contextual independence (within the thematic text, consistency, nominative, lack of expression and speech stylistic neutrality, expediency, and consistency. There are many definitions of the term as one of the linguistic universals in the works of various authors, although it appears in modern research as a word or phrase expressing the concept of a specific field of knowledge or activity⁸. The term is "word or verbal complex ... they enter into a systemic relationship with other words and verbal complexes and forms, together with each other⁹. They are characterized by high information content, accuracy, precision and expressive neutrality¹⁰. S.V.Grinev defines this term as "a nominative special lexical unit (word or phrase) of a particular language used for the exact name of a particular concept¹¹." According to A.S.Gerd, the term Thus, various authors in the definition of the term highlight one or two of the most important or basic, in their opinion, features¹². The definition can be used. Using the definition of the term to get a general idea of the named object (it can be a concrete and material, abstract mental structure), at the same time eliminates the inherent uncertainty. Where a positive definition is possible, the definition should not be negative, it should be commensurate with what it describes.

In modern terminology, not only words or phrases but also sentences can be used to define terms¹³. The terms are used in special military, naval, and sports languages are represented by subgroups of the command-semantic direction. Generally accepted context, only words and phrases are used as terms. Speech as a grammatical category is the opposite of word and phrase in syntax. The proposal serves to communicate about something, performs a communicative function have been any candidate function. Therefore, we can assume that the proposition is not a term. This term should correspond to the characteristics of nominativeness, stability, and reproducibility in speech, where the sentence is not appropriate as a unit of message. Thus, the definition of a term should reflect its main features and characteristics; it should be short and to the point. Also, O.S. Akhmanova defines the term as "a special (scientific, technical, etc.) word or phrase." A language created (borrowed, borrowed, etc.) to clearly express specific concepts and define specific objects"¹⁴

It follows from this point it can be concluded that any word or phrase of a language can serve as a term if its meaning is included in the system of concepts "related to a particular structured subject area". The uniqueness of the term is not in the expression, but in the nature of the meaning. The peculiarity of the term is that a term is an artificial, deliberate word that is related to a scientific concept"¹⁵. The terms also represent specific concepts. They are related to them and have a special, dominant role in the structure of the term, eliminating the connotative components of the term. If we define a concept, the defining elements are added to a simple one-word term, thus creating a specific correlation with the original concept. These can be terminological expressions or complex terms. An intermediate type between a free and a phraseological phrase is a combination of terms. It is grammatically free. However, many terminological expressions are, as a rule, semantically close to the type of free expressions, because their meanings are equal to the sum of the meanings of their components¹⁶. Complex terms are distinguished on the basis of three properties (communication, stability, and repetition). These terms are "a peculiar example of the contradiction between form and content: the form is divided into parts, and they are one, the content and the fulfillment of this function in language, as words and terms"¹⁷ They were not re-created, but were adopted as a finished form of special speech. Even multi-component terms are considered ready-made and well-established when they are included in sentences. Thus, a term is a specific linguistic unit (word or phrase), concept,

event, or type of activity that is used for the exact name and expression of a specific (or professional) object, in a systematic relationship with other linguistic units of the relevant specific language. The term as a unit of a common national language is also part of a special linguistic subsystem. A term is a special linguistic unit and a professional concept that performs a special function of naming, which makes it possible to distinguish it from other linguistic units in the language system. There are some terms that have specific linguistic units, and their properties are realized only through a "specific" terminological system. They have a strong and general vocabulary, which in turn has the ability to understand the terminology process and get into the terminology. These features of the dynamics of terminological and non-terminological vocabulary reflect the interaction of terminology and common language. Each term has a place in the terminology system. It is determined by the place of the relevant concept in the whole system of concepts. Outside of this system, the term loses its distinctive features and can manifest itself in the linguistic system (not terminologically) as its own national and cultural identity, "polysemy, metaphor, figurative, expressiveness, sensibility, connotation, modality"¹⁸. One of the most important features of a term and terminology is its consistency, and the study of terminological units should be carried out within the framework to which they belong.

There are three approaches to the study of terminological systems¹⁹

The first approach is logical, which allows us to distinguish between the terms that define the basic, Latin, and complex concepts of a particular conceptual system. This division is established by a theory (concept) based on a system of objects and concepts in a particular field.

The second approach is linguistic. It represents by the lexical units which are showed under the units of this term system in terms of semantics and form²⁰.

Terms can have different structures, and only their semantic proximity ensures their integration into the system.

The third method is terminology, which combines the first two approaches, it shows the relationship between the term and the terminological system, it shows the place of the relevant unit in the relevant terminological system.

Terms are special language units that serve any area of professional activity. They are at the same time units of natural language, which in turn reflects the heterogeneous and complex structure of the other. Consistency of general vocabulary is expressed in thematic associations. Terminological systems and their functional varieties play an important role in the lexical system of natural language, which are interconnected on the basis of semantic commonality (lexicosemantic systems). A terminological system is a linguistic model of a particular field that can coexist with a logical model represented by a system of concepts and a system of definitions. It can be embodied the logical model in the system of verbal cues.²¹ The term system sufficiently describes the real system of scientific and technical concepts in a particular field of science²² and it is an isomorphic. The term system also serves as an ordered set of terms that describe a system of concepts for a specific area of human activity. There is a binding and an integral connection between them, and the set of connections within such a set determines its structure²³. Thus, we can talk about the logical and linguistic consistency of terms. However, not every set of terms can be a system of terms. Only a high level of development of terminology will lead to the creation of a terminological system. It is also important to keep in mind that, according to D.S. Lotta, all terms in a species-specific relationship have signs of coherence. This can define logical consistency as a mandatory requirement for terms. If we talk about linguistic coherence, it is a

voluntary condition for the creation of a terminological system. This condition is met subject to certain requirements. First, it is the presence of components or elements in the system. There is also a connection between the components and the heterogeneity of the system. Subsequent requirements are the materiality, determinism, openness, structure, controllability of the symbolic (graphically transmitted) elements of the terminological system (the latter requirements are determined by the creation and ordering of terminology in a particular field). Terminology is a systematic system that has general linguistic requirements: grammatical means of expressing standardized terminology (for example, category of numbers, category of gender, category of cases, form formation, etc.); attitude to a foreign language, dialectal and local words that act as terms (for example, attitude to loans from other languages); lexical and semantic features of terms (polysemy, homonymy, synonymy, antonymy); a short form of the term (lexical abbreviation, as well as symbols). Conformity of methods and models of term formation to general word-formation methods and models and to specific models of terminology; preference for certain models of term formation (according to the regularity, specialization of models), word-forming affixes and models to express any meaning); grammatical features of terms; stylistic requirements for terminological constructions (in complex terms). As part of the terminology system, terms are grouped into different groups according to their characteristics and place in the terminological system. One system is part of another, a larger system. According to D.S.Lotte, the requirements for a system of terms are systematic, clear, understandable, and precise²⁴. There are three conditions for a set of concepts that a terminological system must meet:

- The term system should be based on a classification of concepts;
- Based on classification schemes, the system of terms should be able to distinguish between features and concepts that have been terminated;
- The system units of terminology should reflect the unity of the term ending with others, as well as their specificity. It is important to consider the following criteria when defining terminological systems.
- Integrity: a system term should be a set of terms that implement a single concept;
- Structure: The terminological system should have a systematic relationship between the elements, which are expressed in the form of general and other relations, in the form of terminological fields, sequences, hierarchical relationships. The terminological system is part of the system²⁵

Common language;

- Elementary nature: the term system must be a set of elements defined in a certain way;
- Dynamic: terms can change both in terms of expression and content;
- Functionality: Terminology serves a specific area of human activity. The fact that the term paradigm in each system of terms is manifested in the specific features and in the specific nature of the coherence with other terms depends on the system of concepts of the term²⁶.

"In order to understand terminology as an integral part of language, we must first clearly distinguish between the areas in which the term is neutral and there is no term in which the term loses its neutrality." Outside the term field, the term can have a connotative meaning as a simple lexical unit because it ceases to be a term. At the same time, the function of naming and denoting objects and concepts is combined with the function of describing the words themselves, leading

to an emotional or stylistic coloration of a generally accepted or random character. The term becomes a general linguistic unit with an ambiguous definition²⁷.

Although terminology has its own characteristics, it retains its general characteristics. The lexical-semantic field is used by a person in the lexical expression of thought, that is, in speech activity. To do this, use the units that most accurately reflect the communicative function of a particular area. Terminological fields that are not related to a particular part of speech are grammatically based on the semantic system of the lexical material. Professional communication is based on them. Lexical material is related to the same usual situation, characterized by qualitative diversity and breadth of its composition, strict systematization. The structure of these areas represents a multifunctional linguistic complex. Similar semantic units. The terminological field is also distinguished by the existence of a systematic relationship in the semantic field and the semantic generality of its components. Together, these three planes of the terminological field increase the effectiveness of applied linguistic research. Semantic-paradigmatic categories form the basis of structural relations of terminological field units. The most common are: hyper-hyponymic compounds, polysemy, homonymy, synonymy, conversion, and antonymy. Terminology is characterized by more interdisciplinary homonymy, categorical polysemy, as well as synonymous and antonymic relations of terminological units, although the term "ideal" should not be ambiguous²⁸. Although a lot of work has been done by Uzbek linguistics on the regulation of sectoral terminology, there are many problems that need to be addressed. This can be explained by the fact that the issue of regulation of terms is not carried out uniformly in all terminology. It is well known that the level of development and perfection of any field of science is inextricably linked with the degree to which the terminology of this field is developed, as well as with the characteristics of its regulation. Because unless the term used in the scientific literature or its form of expression is clear and concise, then, of course, negative situations such as confusion and uncertainty will be avoided. Therefore, as noted by V.P.Danilenko, the rate of development of any science or industry is determined by the fact that the terminology of this field has a "strict scientific terminology"²⁹. V.P.Danilenko defines the concept of "rigorous scientific terminology" as the harmonization of any field terminology with the development of the field of science, the harmony of industry terminology in the expression of concepts in the field, the compatibility of the created and existing terminology with the language of science. Implies the accuracy and rigor of the terms reflect the level of science, mentality, and culture of the nation. The development and regulation of terms vary in different areas of science and depend on the development of a particular science. As this development continues, new terms will emerge, as will order. In general, the elaboration and arrangement of terms in the mother tongue is a necessary resource for both textbooks and manuals, as well as for teaching in the mother tongue. The fact that the terms are not developed and arranged also affects the style of speech. This means that the regulation of terminology is an important issue not only in the scientific field, but also in social life.

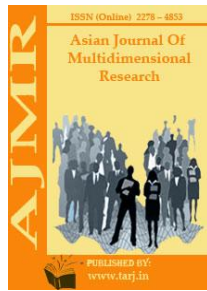
The effectiveness of the regulation of terminology is evident in the following cases where the terms are used directly: in the correct organization of vocational education, in oral communication in industrial practice, in correspondence in scientific and production processes, in typography (in the publication of scientific, educational, production, etc.), in the translation of foreign literature, etc. The change of terms in linguistics and the emergence of new terms are inextricably linked with the development of science and technology. Linguist L.I.Bojno noted that: "Under the influence of technical progress, terminology changes on the basis of two interrelated laws, first, the laws of scientific and technological progress, and secondly, the

general laws of language development³⁰. The fact that technical skills now go beyond a certain narrow range and become popular, and that experts in various fields make extensive use of scientific and technical advances in their day-to-day work, requires a high level of demand for terminology. Because the more important the development of science and technology in life, the more important are the terms for its acquisition, management and development. In this regard, the regulation of terms, their study from different angles, is of great scientific and social importance. It is a natural phenomenon that as a result of the rapid development of science and technology, with the emergence of new machines, apparatus, tools and technological processes, new terms are emerging to describe them. The terminology of this field is constantly expanding. Another aspect of the issue is that the influence of countries that are developing over time and increasing their role and influence in the international arena is also contributing to this. As an example, in the Uzbek national wrestling sport, we can cite such terms as "Halal, chala, yonbosh". In many cases, we see the creation of new terms as a simple translation or process. This is one of the main reasons for the existing shortcomings and confusion in terminology. After all, creating a new term is a creative process that is perfect in every way. Any scientific and technical term is a reflection of a simple word or phrase in terminology, which must have a clearly defined and defined content, and this content, regardless of the context, must belong only to this term. In particular, Professor K.M.Musaev compares terminology as a lexicon of a language as if it were a city. In his view, although the terminology is built on a single plan, it is not built all at once. It is formed on the basis of historical conditions, with the participation of various architects, designers and inventors of different generations. They build every building under scrutiny. This determines the complexity of the terminology³¹. The scientific literature highlights the following serious shortcomings that are common to sectoral terminology in all languages: the ambiguity of terms; synonymy of terms; the term used to express a particular concept does not correspond to the essence of the concept it is supposed to mean; the multi-component nature of the term and, consequently, the inconvenience of its use; inconvenience of pronunciation of the term (such terms occur for two reasons: 1) in the creation of the basic term its derivative possibilities are not sufficiently taken into account; 2) when learning a foreign term, it is taken seriously and not criticized); overfilling of terminology with foreign terms; such as a lack of coherence with the essence of the concept it should mean in the creation of the term. Of course, no language can build its terminology on its own terms. The process of language construction shows that there is no pure language in the world. There is always a process of learning a term from another language, and it is impossible to avoid this process. But even when there is no need, the artificial use of foreign terms does not always work.

In such cases, it is important to make more use of one's own language and to maintain a balance between the nature of the concept and the term to be expressed. In many cases, terms that describe certain concepts are no longer in use. As a result, such concepts, while very important and significant, do not have the opportunity to spread. Some of these shortcomings are also present in Uzbek terminology. In particular, the use of the same term for more than one concept in our language, the naming of one concept with different terms, the existence of variance, the inability of Russian and European terms to accurately reflect the essence of the concept, the inconvenience of terms expressing one concept. There are many cases that contradict the leading trend of terminology, such as the existence of a divisive multi-component situation, excessive use of foreign terms, differences in the spelling of some terms. Such negative developments in Uzbek terminology indicate that much remains to be done to regulate sectoral terminology.

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MARSHALING THE MARKET BEHAVIOR: AN EVALUATION STUDY OF CONSUMER PERSPECTIVE ON THEIR PACKAGING

Dr. Rakesh D*; Ms. Maheshwari B P; Mr. Abhilash P*****

*Assistant Professor,
 B.E., M.B.A, Ph.D

JSS-Center for Management Studies,
 JSS Science & Technology University,
 JSS Technical Institutions Campus, SJCE,
 Mysuru, INDIA

Email id: rakeshdamodar@jssstuniv.in, damodarrakesh@hotmail.com

**Assistant Professor,
 B.C.A., M.B.A

JSS-Center for Management Studies,
 JSS Science & Technology University,
 JSS Technical Institutions Campus, SJCE,
 Mysuru, INDIA

Email id: maheshwari.bp@jssstuniv.in

***Assistant Professor,
 B.E, MBA

JSS-Center for Management Studies,
 JSS Science & Technology University,
 JSS Technical Institutions Campus, SJCE,
 Mysuru, INDIA

Email id: abhilash.puttabuddhi@jssstuniv.in

ABSTRACT:

Every social and global issue is a business opportunity just waiting for the right kind of inventive Entrepreneurship, the right kind of investment, the right kind of collective action.

- Peter Drucker

The main intention in conducting this research is to grasp how customers appraise item bundling. Three quality traits of bundling – specialized, practical and instructive - and their effect on shopper fulfillment and dependability were surveyed. The investigation was directed on Fruit Juice item bundling, including 199 nuclear families, utilizing four kinds of packaging. A

sum of 398 organized survey was utilized to gather the information from both the occasions (point of procurement and post purchase). Measurable techniques, for example, Amos 20 and spss are the software used to develop and assess the consecutive hawser of value propertises, fulfillment and steadfastness. The outcomes distinguish the particularly esteemed excellence properties and pardon contrasts persevere amongst the four sorts of food packing. This investigation adds to the group of information as far as shoppers buy encounters with respect to the processed food item. The current investigation gives experimental points of view to showcasing supervisors, item chiefs and promotion organizations, other than hurling business suggestions.

KEYWORDS: *Wrapping, Methodological Eminence, Informational Quality, Fulfillment, Consumer Perspective, Constancy, Sem.*

INTRODUCTION

Necessity of Food Packaging Products.

Bundled food items hold a noteworthy spot in the Indian food advertise. It is utilized in our day by day schedule life, ordinary gatherings, home fixes just as for outside application. A sum of 70 percent of urban Indian homes devours bundled food normally regularly [1]. The size of the Indian bundled food showcase is around Rs. 50,000 crores [1], and India trades a significant number of the bundled food to Oman, UAE, Singapore, Saudi Arabia, Australia and a lot more nations. Bundled nourishments are the gastronomic star till the 1980s when it was shelved by quick nourishments, with the legitimization that they are profoundly soaked greasy food sources. Starting late, according to US dietary principles declared, the total dietary fat and cholesterol confirmation are not a concern for sound people. This approach choice has supported the utilization of pressed food things and is relied upon to develop at a CAGR of 17 percent till 2020 [2]. Nearby the shiny containers of olive and different oils stand the bold containers and metal jars of juices and different snacks in the Indian merchandizing locations. Numerous brands of such pressed food things are accessible in the Indian market, for example, Mayya's, GRB Amul, Britannia, Haldirams, and Lays and so forth. There are likewise some claim to fame marks that offer, for instance, natural food things and bites (delivered naturally) and desi-rustic stuffs. What contemplations, which (need to) go into the determination of the bundling material, appropriate for such a noteworthy food should be investigated?

Consumer Behavior over the Packaging of Food Product:

Bundling is a significant instrument in showcasing as it contains and ensures the item as well as characterizes the item quality and its norm [3]. The bundle goes about as a vehicle for imparting the substance's characteristics and other pertinent data to the customer [4,5]. From an advertising point of view, bundling can likewise improve the association's picture, image logos, and business advertisements of the brand [6]. With the ascent of self-administration foundations, the job of bundling has gotten considerably increasingly pertinent and essential [7]. Bundling is the fifth "P" in the showcasing blend and is additionally alluded to as "deals bundling" [8]. The advertising capacity of "deals bundling" contains visual characteristics and data properties. For results of prompt utilization, for example, water or milk, bundling creates increased the value of the items [9].

Bundling can incite negative or inspirational assumptions regarding the item [10]. It helps in item determination and can create contention among serious brands. Bundling imparts brand character and brand separation, stands out and positions the item inside an item category. [11] Sometimes, bundling has been basic to the item or brand personality, for example, Coca-Cola silhouette. [12] Few exploration contemplates guarantee that advertisements are less unequivocal in buy conduct than item

Packaging. [13,14] In this manner, bundling, other than going about as an ad also, presenting the brand to various individuals, could be a significant explanation behind the brand's endurance.

Buyers buying Decisions and their Perspectives:

Buyers purchasing conduct includes reasonable measurements, for example, observations, values, fulfillment, dedication, desires, character, inspiration, and dynamic. It is normal for customers to frame impression of an item dependent on its bundling. These recognitions have direct effect on buying choices. Most investigations of procurement conduct have been embraced in business foundations and different creators emphasize the significance of bundling and its pertinence in buying choices [11,17]. Premium bundling propels around 52 percent of the customers to return for a recurrent buy [18]. Bundling helps in holding existing clients and furthermore draws in new clients. It acts like a quiet salesman that impacts buy choices past any lighting, music or shading. Bundling assumes a vital job in advertising blend choices also, is viewed as a significant vital advertising device that impacts buying behavior. [14] As found in the writing audit above, bundling can spur or dishearten shoppers to purchase the item. It can likewise energize as well as debilitate brand fulfillment and loyalty. [25]

LITERATURE REVIEW:

- **Clement [14]** broke down the shopping conduct at various minutes in time and found that bundling impacts the purchaser right now of settling on buying choices.
- **According to Enneking et al. [19]**, in the post-buy stage, customers don't for the most part survey similar characteristics that were evaluated in the past stage.
- **According to Lofgren et al. [21]**, consumer loyalty and steadfastness are impacted by bundling and this impact differs as indicated by the client's involvement with the buy choice procedure stage.
- On comparable grounds, **Karimi et al. [22]** proposed a model which assessed the impact of bundling on customer conduct at all the three phases: previously, during and after buy. As bundling impacts purchasing conduct, a few examination considers have featured the significance of contemplating the connection between the quality traits of bundling what's more, the buying conduct of consumers.
- Further, **Joubert and Poalses [24]** examined the impacts of marked and unbranded bundling of new milk items on individuals' buy choices.
- **Lofgren and Witell [20]**, where bundling's commitment to purchasing conduct and consumer loyalty has been found, there are a barely any investigations that, by utilizing the basic condition demonstrating (SEM), affirm the particular impact that bundling has on buying behavior.

- **Lofgren et al. [21]** proposed a bundling fulfillment model, connecting the specialized, practical, and educational parts of bundling with item fulfillment and unwaveringness.
- **Farrukh et al. [26]** have likewise built up a model that set up the connection between buying conduct and bundling, with brand picture assuming an interceding job. Nonetheless, quality properties, other than naming, were most certainly not considered in these examinations.
- **Karimi et al. [22]** contemplated the visual and useful parts of makeup, food and wellbeing items for their impact on buyers' buy plan. Be that as it may, the utilitarian parts of bundling, for example, the usability, were not contemplated.
- According to **Williams et al.39**, explicit bundling plans, by their capacity to secure, and broaden the timeframe of realistic usability of the separate food item, are connected to consumer loyalty.
- As indicated by **Oliver [23]**, reliability is a confirmation to re-buy or on the other hand suggest an item or administration or a general connection or on the other hand profound duty of a client to an item or administration. Past exploration has portrayed that devotion has two angles: social and attitudinal.
- An examination by **Judd et al.33** found that clients settle on a decision in no time, with the bundle assuming the job of a quiet sales rep at the main snapshot of truth. At the second decision time, the practical and different properties of the item woken up to the purchaser while s/he encounters the item by utilizing it.

RESEARCH OBJECTIVE:

- **To study the role Technical, functional and informational aspects of packaging the products at the purchase moment and its post-consumption.**

"Fulfillment" is one of the most relevant develops in promoting. It is characterized as a worldwide or all out involvement in an item or administration. Nilson et al. [37] allude to it as a type of utilization utility and Oliver [38] considers it a fundamental type of surveying encounters, connected to post-buy conduct. According to Williams et al. [39], explicit bundling plans, by their capacity to secure, and broaden the timeframe of realistic usability of the particular food item, are connected to consumer loyalty. This demonstrates fulfillment is a determined function. [40,41]

"Faithfulness" alludes to rehash acquisition of an item or administration; the connection a shopper has to the brand. [43] As indicated by Oliver [23], unwaveringness is a confirmation to re-buy or then again suggest an item or administration or a general connection or then again profound responsibility of a client to an item or administration. Past exploration has delineated that unwaveringness has two angles: social and attitudinal. [38,43,44,45,46,47] Attitudinal reliability fuses a degree of dispositional feeling of responsibility in the client to the item or administration.

Flow Diagrams and Models:

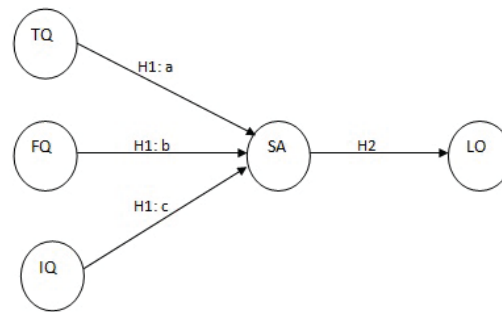


Diagram 01: Model of Customer Loyalty and Satisfaction.

The goal of our exploration here was to consider the job of the "specialized, utilitarian and enlightening perspectives" of bundling right now of procurement and post-utilization. Every one of these perspectives are considered as "quality properties" of bundling. The "specialized angle" incorporates the shading, plan, and cleanliness parts of bundling. It accentuates the maintainability of the bundling material. The "utilitarian angle" incorporates the simplicity of opening, serving, and shutting. It alludes to the client's interests while utilizing the item. The "educational angle" alludes to the messages and guidelines engraved on the bundle and incorporate parts of handiness and area of the printed data just as any necessary images and codes. "Fulfillment" is one of the most relevant builds in Advertising. It is characterized as a worldwide or all out involvement in an item or administration. According to Williams et al., explicit bundling structures, by their capacity to secure, and broaden the timeframe of realistic usability of the separate food item, are connected to consumer loyalty. This demonstrates fulfillment is an inferred work. It isn't only one specific exchange that issues; it is the total involvement in an item or administration on a few events over some stretch of time which matters. Oliver expresses that singular scenes of fulfillment total and mix just when there is visit and aggregate fulfillment, which, thus, influences client reliability.

With regards to a develop item like ghee that has purchasers with related knowledge; the idea of aggregate fulfillment is very important and proper. Fulfillment has a solid linkage with quality, unwaveringness, and productivity. "Devotion" alludes to rehash acquisition of an item or administration; the connection a buyer has to the brand. As indicated by Oliver, dependability is a confirmation to re-buy or suggest an item or administration or a general connection or profound duty of a client to an item or administration. Past exploration has portrayed that faithfulness has two perspectives: social and attitudinal. Attitudinal reliability joins a degree of dispositional feeling of duty in the client to the item or administration. Social unwaveringness incorporates rehash acquisition of the item or administration. Attitudinal dedication, a definitive ward variable in the model, is an intermediary for client maintenance, which thus prompts gainfulness. Devotion demonstrating has consistently utilized consumer loyalty as one of its factors. Since fulfillment influences reliability, buy and utilization encounters could be said to influence faithfulness. The "fulfillment succession" is utilized to show how the chain of "value fulfillment dedication" influences gainfulness.

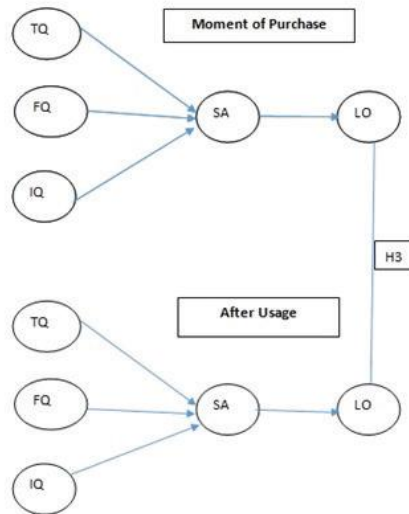


Diagram 02: Model of Customer Loyalty and Satisfaction at the Point of Purchase and Post Purchase sales.

As of late, the results of fulfillment are getting progressively apparent as less client objections, expanded client maintenances, more profound client devotion and increment in productivity. No examination has been done to consider the impact of value properties of bundling on food and drink items. This allowed us a chance to embrace the current examination, concentrating on the drivers of fulfillment instead of its results and utilizing dedication as an intermediary for maintenance that influences benefit.

Research Hypothesis:

Based on the previous writing survey and conversation, the accompanying speculations were projected:

H1: There exists a critical and direct connection between the quality factors (TQ, FQ and IQ) and fulfillment (SA; indicated in Diagram 01).

H2: There exists a noteworthy and direct connection among fulfillment and unwaveringness (SA and LO; indicated in Diagram 01).

H3: There exist noteworthy contrasts in the five elements of TQ, FQ, IQ, SA and LO—for each sort of packaging-between second I (point of purchase) and second II (post purchase usage; as mentioned in diagram 02).

RESEARCH METHODOLOGY:

Type of Research

The sort of exploration utilized for the proposed examination is "DESCRIPTIVE & EXPLANATORY RESEARCH" which assists with depicting the interior versatility of the packaging of the food products. This kind of Research is an examination that portrays the packaging in an exact manner. This exploration assists with finding the obscure realities about the research. It includes assortment of information which gives depiction about the loyalty and

satisfaction of the customers towards the usage of the packaged food products at the purchase and post purchase moment.

Sampling Technique:

PROBABILITY SAMPLING technique is the strategy adopted in this proposed research. It's a kind of method which gives singular equivalent odds of being chosen. This technique guarantees that in the populace they have equivalent odds of being chosen.

Sampling Method:

SIMPLE RANDOM SAMPLING is utilized for the proposed research. An observational investigation was directed from September to December 2019. Organic product Juice was picked, as it is a significant item and has been in the market in its present bundling structures for quite a while. A great many people in India know about the item and have a direct encounter of it. Four kinds of bundling were considered for this examination: flexible pouch, tin can, bottle container and tetra pack (referenced in diagram 03).

Sample Size:

The primary poll was to be topped off on the spot, in the wake of choosing any one kind of bundle from among the four accessible sorts (adaptable pocket, tetra pack, metal can and bottle holder) - regardless of the brand. The ensuing poll was to be topped off within the week of the point of purchase of those packaged food products. The respondents were home makers and ladies who are working in the city of Mysuru. They were solicited to visit any from the stores - conventional, grocery store, strength or an accommodation store - and pick any of the four determined bundles. The all out example of 199 nuclear families comprised of four subsamples. They were flexible pouch 53 (27%), tin can 39 (20%), bottle container 58 (29%) and tetra pack 49 (24%). The 398 (199×2) organized surveys that were gathered had information from both the occasions (procurement and post buy).



Diagram 03: Types of Fruit juice Packaging.

Since the intention behind this exploration was to inspect the packaging of the food products at two different moments (time of purchase and post purchase experience), a strategy for the examination was framed in selecting various set of single domain individuals who are not at all the loyal buyers of the packaged items. The respondent was the individual from the family who does the food looking for the family. Every family got an envelope, which had two organized surveys in it. One of them was to be filled by the key witness right now of procurement and the other by similar respondent post buy utilization. The plaintiff attributes are summed up in Table 1.

Table 01: Respondents Details

Parameters	Grouping	No	of	%
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		Respondents	
Suite Design	Flexible Pouch	39	20
	Tin Can	58	29
	Bottle Container	49	24
	Tetra Pack	53	27
Gender	Female	199	100
Age	20-29	34	18
	30-39	66	33
	40-49	88	44
	50-59	11	5
Qualification	Elementary	24	12
	PUC	50	25
	Degree	95	48
	Master Degree	30	15
No of Household People	One	6	3
	Two	20	10
	Three	61	30
	Four	73	37
	Five+	39	20
Working Condition	Working	60	30
	Non-Working	139	70

Model and the Scales of Measurement:

The items for the instrument were finished based on the accessible writing and a pre examination with various scholars and experts. The excellence properties were grouped into different builds: Technical Quality (TQ), Functional Quality (FQ) and Informational Quality (IQ). Every one of the above mentioned excellences develops have their own articulations to be reacted to. These excellences based explanations were extracted from Lofgren et al. and adapted as quoted. To validate the attribute of satisfaction (SA), the mentioned proclamations from the research made by Oliver has been adapted. Such that the few more articulation of Loyalty Construct (LO) was extracted and refined by the research work done by Johnson et al. The poll has various segmented areas. Segment 1 identified with chattels of bundling, segment 2 was on fulfillment and devotion, and segment 3 was to evident the plaintiff's profile information as appeared in Table 1. All the research based recordings and findings were refined on a Likert scale of five-point rating: strongly disagree, disagree, don't know, agree and strongly agree. The factors and pointers utilized in the examination are appeared in Table 02.

TABLE 02: DIMENSION OF SCALE.

Sl. No	Paradigm	Gauge	Particulars
1	TQ	Shade	The Color of package is what catches my attention first, when I buy fruit juice.
2		Strategy	The design of the juice packet influences my purchases.
3		Sanitation	Packaging enhances the value of the fruit juice in it as it reflects the hygiene of the product.
4	FQ	Ease of introductory	This fruit juice packet allows me to open it easily.
5		Ease of concluding	This fruit juice packet allows me to close it easily.
6		Allocation	This package is convenient and easy for serving the fruit juice.
7	IQ	Evidence content	My decision to buy this juice was enhanced by the information given on the package.
8		Information Location	The location of where, on the package, the information is printed influences (makes it easy or difficult to turn) my attention to it.
9		Symbols and Codes	The symbols and codes on the juice packet influence my decision to buy the product.
10	SA	Decision	I am satisfied with my decision to purchase this package of juice.
11		Procurement	I am happy purchasing ghee in this kind of package.
12		Choice	I believe I made the right choice in selecting this package.
13	LO	Attraction	I feel attracted to this packaging of ghee.
14		Endorse	I would endorse this specific packaging of ghee to family and friends.
15		Positivity	I say positive things about this package to other people.

As by the result confined the above research requires and proposes another request model which helps in the fulfillment in the resulting of the problems faced by the food packaging organizations. This is quoted in the regard and conclusion based by Lofgren et al.. Foremost, the immediate impact of fulfillment on faithfulness was subsumed to make sure about the model's legitimacy.

Loadings

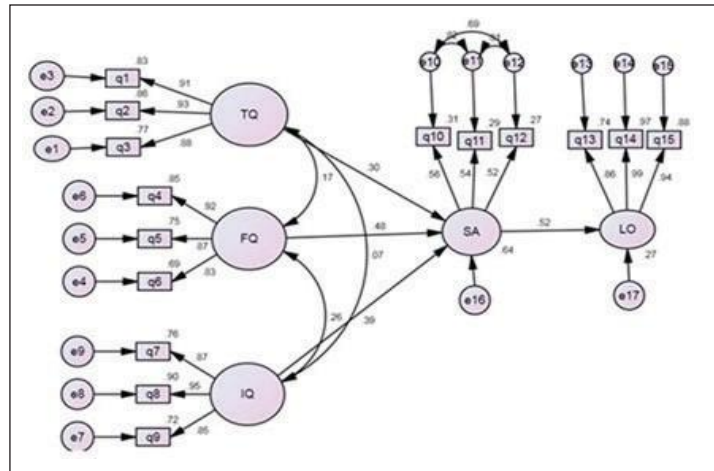
Moment

Dimension	Indicators	of			CR, AVE and MSV	
		Purchase	After Usage			
TQ	Color	0.91	0.94	Moment of purchase	0.931, 0.079	0.818,
	Design	0.926	0.91	After usage	0.940, 0.074	0.839,
	Hygiene	0.877	0.88	9		
FQ	Ease of opening	0.921	0.78	Moment of purchase	0.906, 0.142	0.762,
	Ease of closing	0.868	0.86	After usage	0.841, 0.229	0.640,
	Serving	0.828	0.74	6		
IQ	Information	0.87	0.73	Moment of purchase	0.920, 0.113	0.794,
	Information location	0.948	0.87	After usage	0.833, 0.210	0.625,
	Symbols and codes	0.852	0.75	4		
SA	Satisfaction	0.895	0.77	Moment of purchase	0.942, 0.142	0.844,
	Purchase	0.974	0.98	After usage	0.940, 0.169	0.842,
	Selection	0.884	0.98	3		
LO	Loyalty	0.861	0.75	Moment of purchase	0.950, 0.113	0.863,
	Recommend	0.986	0.99	After usage	0.940, 0.229	0.840,
	Positivity	0.936	0.98	5		

Table 3. Summary of Measurement Models: Reliability, Convergent and Discriminant Validity

Note: CR > 0.7 (composite reliability is met), AVE > 0.5 (convergent validity is met), MSV < AVE (discriminant validity is met).

Highly empirical and effective analytical packages have been used for the research. And the questionnaire was framed as per the requirement of the analysis and almost 1000 subsamples



were collected to boost up the research analysis. The collected data from the respondents was

Diagram 04: Structural Model of Fruit Juice Packaging at Point of Purchase.

segregated using Anderson and Gerbing's two stage methodology, which makes the estimation of the data fetched by the corroborative estimation model before the auxiliary model.

The instrument unwavering quality and legitimacy were tried by a composite trial of dependability, joined legitimacy and discriminant legitimacy. All the grades met the suggested limit esteems as mentioned in Table 3.

FINDINGS AND DISCUSSIONS:

The analysis is done by using the analytical software AMOS 20 to estimate them via two models, the one which we estimated at the point of purchase moment and the another second one for the post purchase moment of the packaged food products. Refined by the 199 respondents for each of the model. For the mode of getting done with the analysis of this model the secondary hypothesis on the attributes (H1 and H2) were tried. The formal boundaries tend between the gage of -1 to +1 in the numbering and they are worthwhile for the appraisal and also more ever they are predominant in the measurement pattern which are effective in nature. It is then stated that the immediate and critical rapport arises with the inter of quality issues with respect to technical, functional and informational aspects and thus satisfy with the attributes at both the moments of purchase time and post purchase moment. Hence it is the linkage of measurement that with the faithfulness measurement (stated in the diagrams 4 & 5). Consistently the basic two of the constructed models were acknowledged. The practicality in terms of quality was observed as an important and at most basic satisfactory aspect on both the moments i.e (Point of Purchase: 0.48. $P < 0.01$ and Post Purchase: 0.58, $P < 0.01$). Then it is also observed that the serviceable quality attribute (0.48 & 0.58) and the informational parameter (0.39 & 0.47, almost $p < 0.01$) tend to have maximum impact on the post purchase moment of the packaged food products. And at the last, the model which was investigated on the criteria of R2 grit (mentioned in diagram 4 & 5). Thus all the extracted values of every parameter have a slight higher than the standard and endorsed value of 10%.

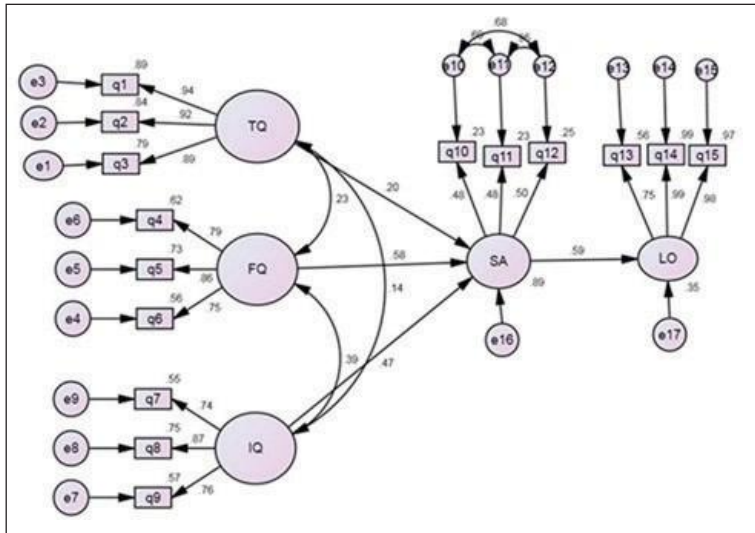


Diagram 05: Structural Model of Fruit Juice Packaging after usage (Post Purchase).

Table 04: SEM Fit Index

Goodness-of-fit Model Index	Recommended Value*	Observed Value (Point of Purchase)	Observed Value (Postpurchase)
1 Chi-square/degree of freedom**	< = 2.00	1.054/80	1.465/80
2 Goodness-of-index (GFI)	> = 0.90	0.947	0.929
3 Adjusted goodness-of-fit index (AGFI)	> = 0.80	0.921	0.894
4 Tucker-Lewis index(TLI)	> = 0.90	.998	0.982
5 Comparative fit index(CFI)	> = 0.90	.998	0.986
6 Normalized fit index (NFI)	> = 0.90	.969	0.958

7 Root mean square of approximation ≤ 0.08 0.016 0.048
(RMSEA)

Table 05:
ANOVA's

Types of Packaging	of Variables	Mean Moment of Purchase (SD)	at of Usage (SD)	F-value	P-value
Pkg1 elastic pouch (53)	TQ	2.56 (1.04)	2.54(0.99)	0.011	0.917
	FQ	3.56(0.86)	3.37(0.88)	0.945	0.334
	IQ	3.59(0.75)	3.49(0.69)	0.466	0.496
	SA	3.21(0.89)	3.03(0.93)	0.872	0.353
	LO	4.07(.68)	3.89(0.99)	1.003	0.319
Pkg2 bottle (58)	TQ	2.55(0.92)	2.72(0.92)	0.662	0.418
	FQ	3.64(0.70)	4.00(0.60)	5.792	0.019**
	IQ	3.76(0.53)	3.78(0.49)	0.048	0.827
	SA	3.73(0.90)	4.10(0.86)	3.382	0.070*
	LO	3.96(0.57)	3.98(0.58)	0.017	0.897
Pkg3 tetra pack (49)	TQ	3.21(1.10)	2.77(1.14)	3.68	0.057*
	FQ	3.57(0.86)	3.73(0.57)	1.31	0.25
	IQ	3.88(0.67)	4.18(0.64)	5.70	0.019**
	SA	3.64(0.88)	3.70(0.83)	0.115	0.735
	LO	3.78 (0.86)	3.75(0.83)	0.037	0.848
Pkg4 tin can (39)	TQ	2.29 (0.75)	2.12(0.76)	1.194	0.276
	FQ	3.52(0.89)	3.38(0.80)	0.643	0.423
	IQ	3.53(0.72)	3.51(0.63)	0.093	0.761
	SA	3.05 (0.90)	3.03 (0.95)	0.081	0.774
	LO	3.72 (0.70)	3.62 (0.77)	0.57	0.447

Notes: * $P < 0.10$, ** $P < 0.05$. *SD*: standard deviation; TQ: technical quality; FQ: functional quality; IQ: informative quality; SA: satisfaction; LO: loyalty.

The structural model stated is an approved universally suitable (Table No 04) for the mentioned situations of point of purchase and post purchase moments. The collection and extraction of the results for the questionnaires filled by the respondents (1000 samples) was evicted and the connections with the situations are valid.

Late on to validate the hypothesis, H3 a modification analysis (ANOVA) was evicted, by keeping every one of the variable individually (TQ, FQ, SA and LO). Then this kind of eviction made us to find out that the variables have difference in their validation at both of the above mentioned situations for the food packaging methodology. (Mentioned in Table No 05)

When we are considering the various attributes of food packaging as mentioned in the Table No 05, the first one bottle container received the maximum customer satisfaction value (3.73) and the quality of function (3.64) at the situation of point of purchase. The second one tetra pack which exhibited the maximum technicality quality of 3.20 and the informational attribute with 3.88 at the point of purchase situation where as the flexible pouch has a maximum loyalty value of 4.07 at the same situation, but lastly the tin packaging attribute have a least accepted by the customer at both of the situation od point of purchase and post purchase moments.

It is clearly stated that the usage of metal for packaging and the adaptable kind of packaging gives the maximum value with all the five factor rating at the situation of point of purchase comparable at the situation of post purchase. With a vast curious the jug comparison gave us the maximum output value for all the five factors at the moment of purchase of packed food products that with comparing the post purchase usage of these products. And thus the tetra pack valued maximum in terms of TQ and thus with the least score for post purchase attribute.

CONCLUSION:

Thus the research carried out gives a top to bottom comprehension of buyer encounters with packaging of food products at two different mentioned situations, the point of purchase of product and after the purchase & usage of products. Shopper observation is seen as main purpose when settling on a decision among respectably tantamount items. This examination presents the important components of packaging that are significant in making positive customer discernments identified with packed food and drink items.

From an exploratory point of view, the fulfillment food packaging model is certified for two minutes in time: the point of purchase of product and after the purchase & usage of products. Thus the examination has solidly demonstrated with the properties of food packaging, for example, the technical, functional and informative potentials do impact consumer loyalty. They are likewise demonstrated that fulfillment impacts steadfastness, however the power of impact differs, subordinate upon the post usage in time. Hence it is in accordance thru the discoveries of Lofgren et al., however the educational eminence was not discovered critical in their investigation. Lee et al. re-imagined the superiority property and con-solidified that enlightening worth was consolidated on the estimation gage when assessing class traits of eatable items. Thus our research included educational quality alongside specialized and instructive perspectives and built a gage for estimation of value properties.

This research additionally endorsed the nearness of complexities, as demonstrated by various kinds of bundling and various minutes in stipulated time. Hence with receiving a thorough

philosophy and over an estimating the job of packing at various distinct minutes in time (the point of purchase of product and after the purchase & usage of products), thus the investigation clarifies a pertinent commitment to speculations of customer considers. Lofgren et al. discovered that amongst the principal decision time and the second critical point in time, the quality of the connection between consumer loyalty and devotion got diminished from 0.603 to 0.305. On the off chance that fulfillment is a fundamental type of practice assessment, the connection concerning after purchase fulfillment and dedication is required to be maximum, which will be valid in the research.

The further adverse effects of this research will give a significant business plans for the food item supervisors, particularly in the area of building up the technical, functional and informational qualities of packaging. Few of them are below mentioned:

- From the introduction, the space and the practice of the food item on the inventory racks of the stored location and which they are known affect the food items that are procured. Our examination has discovered that adaptable pocket and metal can bundling get higher valuations right now of procurement. By utilizing redeeming techniques, these pack can be thru progressively alluring to get the consideration and acknowledgment of the purchasers.
- Trades, for example, soda pops or other food packaging organizations give most extreme significance to wrapper, as item strategy choices depend on it. For example, in the midst of the FIFA world cup, standard blend creator Budweiser introduced constrained release bottles planned as the trophy decided by the FIFA management, depicting that the solidity to the cheers of the football fans. This outline evil spirit started that bundling can advance separation among contenders. Fruit Juice producers may, there-front, lead benchmark investigations of various pack-maturing types from different organizations and improve their own packaging to get progressively steadfast clients.
- Packaging ought to encourage the utilization of the item. In the research conducted, bottle holder and tetra pack delivered the best impact on fulfillment and dedication both at the point of purchase of product and after the purchase & usage of products. Advertisers of the food packaging product will, consequently, do well to underscore the practical parts of the packing as opposed to getting hindered in cost concerns.
- Streamlining the packing plans, in light of client prerequisites, will improve transport productivity and simultaneously increment that benefits the organization. Thus as an example tetra packs, bottle holders and tin jars are coordinated in the modern Italian kitchens for greater mobility of the item. Adaptable pockets that are incrementally conservative are introduced to the topmost of the holding of the bottle at the present times. Hence the faithfulness ratings of the adaptable pocket, at the point of purchase of product and after the purchase & usage of products proves the financial suitability & buyer inclination.
- Marks on the packing do empower imminent clients to purchase the item. To offer greatest

Straightforwardness to clients, marks ought to be clear what's more, straightforward. Our examination study has discovered that enlightening content on the packing assumes an urgent job at which the time of purchase and the time of consuming it. Hence the maximum correlation is estimated by the data collected and also proves the consumers to inquire after the purchase usage of products.

- The most favourable are the Jug compartments which have a different structure of packaging, according to our present research. Hence this practical research is being utilized for an opening and shutting, perceivable of filled item in the holding component & thus accommodating by serving it at the maximum and compressed with various other patterns of packaging. Hence among all the various and different quality issues, the utilitarian matters a lot in terms of quality aspect and thus its rating is highly valuable and notable. The often innovative and different packing aspect at the present scenario is proved as "tetra pack". This comprises as ideal packing item and also bit higher in costing compared to the other components. This research has given an outcome that there is favorable atmosphere above the metal jar components by the users. Despite the fact that metal jars are non-harmful, customers don't incline toward them for issues of perceivable, stockpiling, and fragrance. Our examination has discovered this is the least favored bundle. "Adaptable pockets" are savvy and very helpful to work. They are accessible in different shapes, for example, a pocket held tight a peg show or hold up pocket on a store rack. Food packaging containers of different shapes and sizes like half liter and one liter are demonstrated in the market for different usages and their efficiency is varied individually.
- As showed by Nikki Clark, 85 percent of client's state that "Color Variant" is the conclusive factor when buying an item. Organizations can receive the most favored variant plan of marking. Thus the various color shades contemplate with significant for promoters while they choose their packaging.

In the past years, the idea of wrapping of fruit juice, drinks and other food items has received a very happening kind of sector and is being suitably observed and appealed as a major influencer for starting up any venture. In the above research and discussed paper and also the ideas that have emerged in plenty various methodologies which can be implemented by the fruit juice or food packaging companies so that they might engrave their sales strategy and which will impose or affect directly with a positive sign on their profits.

Limitations and Further Scope of the Study:

This article didn't focus about the pay adaptable and could appear to be one-sided concerning the white collar class. Impending analysis would do glowing to likewise investigate the impact of instructive echelons on spending conduct and conceive the significance of wrapping with supplementary item properties, for example, "various Brands". The kind of hoard from where an item was fetched was not painstaking in our examination. Stores, for example, market, rebate store, claim to fame or accommodation hoard, and so forth differentially affect buy conduct. The bundling area didn't make any qualification between the reused or ecologically benevolent bundles what's more, the conventional bundles. These qualifications could give an edge to item inclinations.

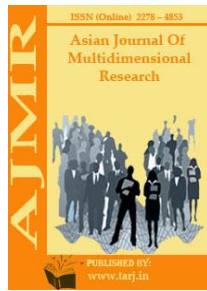
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AUTOMATION OF TRANSFORMER SUBSTATIONS OF INDUSTRIAL ENTERPRISES WITH MODERN PROGRAMMED LOGICAL CONTROLLERS

Aslanova Gulnoz Nasriddinovna*

*Senior Teacher,
Pulpit” Energetics” Of Bukhara Engineering Technological Institute,
UZBEKISTAN

ABSTRACT

The article discusses the issues of achieving energy savings through the automation of transformer substations of industrial enterprises using modern programmable logic controllers. Reliability decisions are made at each level of management of the development and functioning of electricity: in pre-design development, at all stages of power system design, installation of facilities, operation of power generation, operational and dispatch management, planning and regulatory, as well as regulatory other modes should be adopted in automated and automatic control, planning and carrying out repair work.

KEYWORDS: *Controller, Substation, Control System, Power System, Electrical Equipment, Electricity, Generation, Remote Control, Relay Protection, Alarm, Automation, Recording, Voltage Change.*

INTRODUCTION

Reliability decisions are made at each level of management of the development and functioning of electricity: in pre-design development, at all stages of power system design, installation of facilities, operation of power generation, operational and dispatch management, planning and regulatory, as well as regulatory other modes should be adopted in automated and automatic control, planning and carrying out repair work.

The problems arise due to the administrative-economic division of a single technological process "generation - transmission - change - distribution - consumption" of electricity, which requires a comprehensive consideration of reliability requirements to solve them.

Decreased reliability of power systems leads to inefficient use of electricity sources, makes it difficult to control and manage their operating modes, leading to large financial losses for both electricity producers and consumers. Accordingly, the solution to the problem of developing

methods and theories of research, analysis and evaluation of the reliability of power facilities - the development of a complex method is a practical application.

In its design, a complete automatic transformer substation (KATN) was developed, which created a three-phase five-wire TN-S network with three-phase N-wires on PEN buses, separated from PE-wires and then distributed separately throughout the network. Such a scheme significantly increases the safety and reliability of the network function and is recommended in the new rules of the structure of electrical equipment. mechanisms were used for the first time. [1]

Development and implementation of automatic control system of 10 / 0.4 kV complete transformer substation (KTN), the introduction of the control system has increased the structural reliability of KTN, ie the reliability of the power supply to consumers.

At present, a model of an experimental laboratory for the automation system of KTNs with a voltage of -10 / 0.4 kV has been developed, which has been tested in production conditions. The control system connected to the 0.4 kV voltage distribution device (T-0.4 kV) of KTNs automatically connects the reserve and switches to supply from a third backup source, as well as the transfer of T-0.4 kV supply to them when the power supply is restored at the main sources, both main supplies KTN restores the normal supply scheme when electricity (voltage) appears in the sources.

The following is the difference between this 10 / 0.4kV voltage KTN automation system:

- ❖ Modern design;
- ❖ Openness to Automatic Control Systems (ABT) due to the availability of ports and the use of standard information exchange protocols;
- ❖ Extended capabilities in the defense section;
- ❖ Features such as soft hardware and software allow you to implement soft technical and economic developments for any category of consumers.

The control system performs the necessary functions of local or remote control, relay protection, alarm, automation, recording, control of harmonics in the voltage curve (when supplied from a backup source), diagnostics of circuit breakers, interlocking at various connections of KTN.

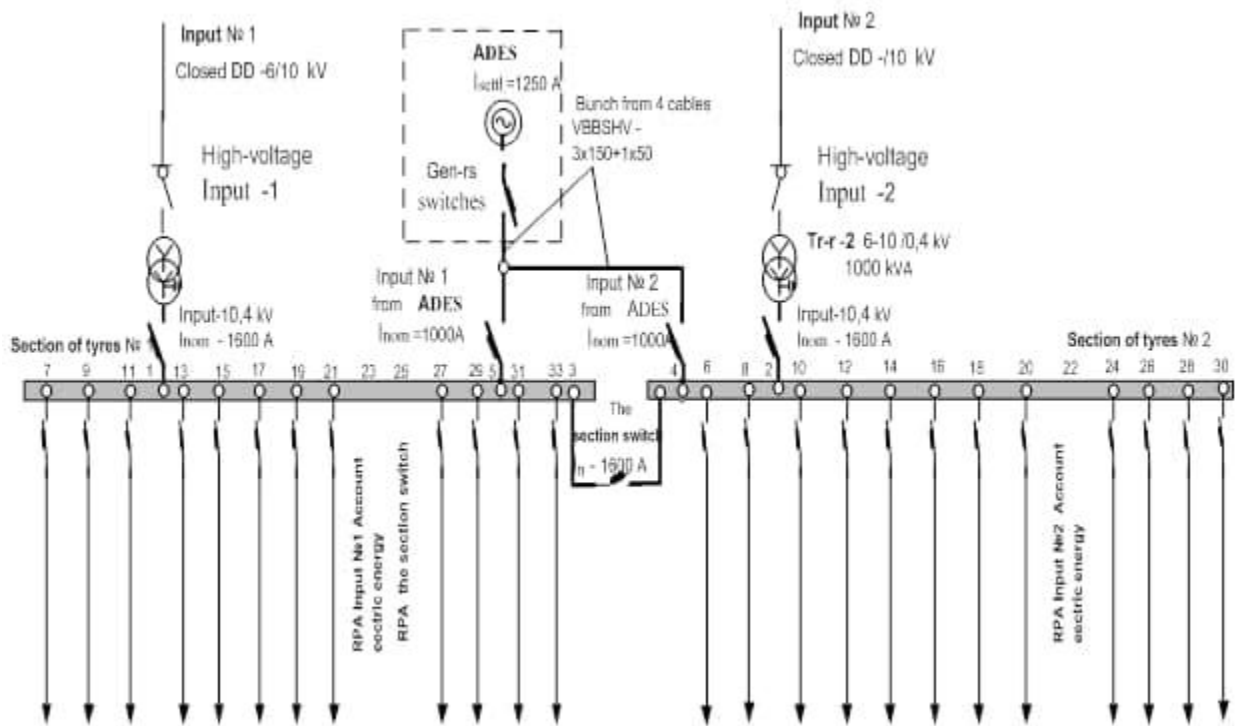
From the study and systematic analysis of foreign analogues, it is clear that the proposed development has the following advantages over existing analogues:

- Fully automated KTN work management system;
- Full connection with modern ABT, reliable remote control, full signaling on display, remote control of installations, in which case KTN becomes an independent subsystem of technological processes ABT (TJ ABT);
- Easy accessibility and simplicity of management and maintenance;
- Fire safety, high service safety;
- unification of technical solutions, use of standard modules, reduction of demand for spare parts; complete preparation at the factory;
- Improved control over the operation of electrical equipment and RA devices, due to the fact

that information on all cases, failures and short circuits is automatically delivered not only to the workplace of the operating staff, but also to the dispatching address of the high-level enterprise (association);

- due to the fact that it is possible to diagnose not only RA devices, but also other devices, such as circuit breakers, by recording the values of currents during shutdown, the number of shutdowns, ie the status of circuit breakers;
- Critical reductions of KTN configuration elements; new features, prophylactic protection of electric motors (from multiple starts, overheating, phase outages, etc.), premature shutdown of synchronous electric motors when they lose power, etc. the possibility of selling them. [3]

1-pic. below shows the schematic diagram of the KTN.



1 pic. shows the schematic diagram of KTN.

The following algorithm of KTN automation was implemented at T-0.4 kV (Figure 1). Automatic interconnection (ZAU) is implemented in the inter-section circuit breaker (SO) - in normal mode the input circuit breakers from both transformers are switched on, the SO is switched off. When a voltage is lost at one of the inputs (voltage control is performed directly on KTN T-0.4 kV busbars) - the corresponding input circuit breaker between the patient watts is switched off.

SO is switched on due to the fact that the input circuit breaker is switched off, the voltage path in the switched bus section and the presence of voltage in the other section of the section. When the

input switch is switched off by the current protection, the signal "ZAU is prohibited" is generated. [3]

The algorithm for automatic start of the backup source-autonomous diesel power plant (ADES) is implemented: in the first case, the inputs from both transformers are closed, one of the switches connected on the "plug" is connected, the generator switch on the ADES van is turned off.

In case of voltage loss in both sections of KTN (voltage control is performed directly on KTN T-0.4 kV busbars), the inputs from both transformers are switched off, on the fact of their switching off, a command-signal is developed to connect the generator switch in ADES van. To switch to the main source of supply, the dispatch entry in the cell called "Input №1 ADES" has two: "Aut." and "Ruchn." The "automatic reverse switch" re-connector is installed.

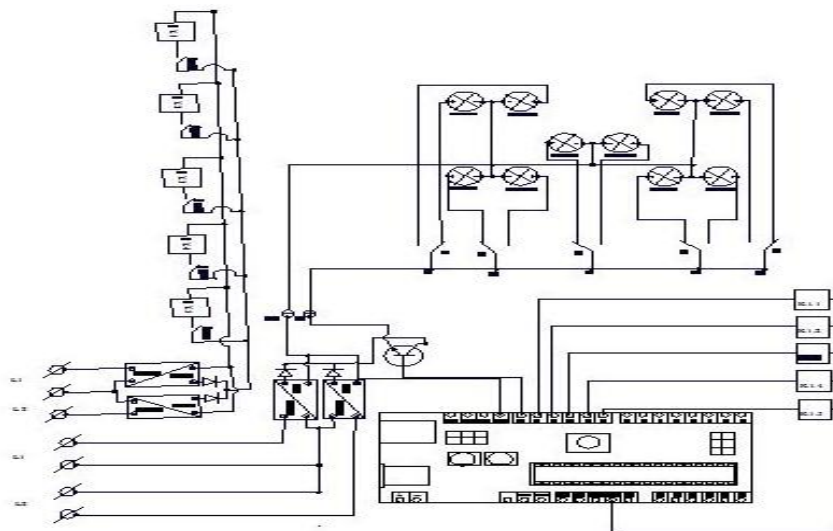
Reverse Transition Algorithm: when a voltage appears at one of the inputs, a normal stop signal of ADES is generated according to the given time setting (1-30 min.).

In this case, the generator in the ADES van is switched off, the input circuit breaker of the SS is connected to the fact that there is a voltage to one of the bus sections up to the input circuit breaker, no voltage in the SS, the input circuit breaker of the adjacent section. [2]

When a voltage appears at the other input, according to the set time setting (1-30 min.), The SO is switched off due to the presence of voltage at this SS input, the fact that the input circuit breaker is connected and the presence of voltage at the adjacent section, and the second input is switched off..

Selecting the connection priority of the input switch is done according to the time setting to connect. When voltage appears at both inputs at the same time, the input with the smallest time setting is connected first.

A schematic of the KTN management system is shown in 2 pic. below.



Pic. Scheme Of Ktn Management System.

The list of elements of the KTN management system is given in the table below.

TABLE 1 LIST OF ITEMS

№	Element name	Element type	Number of elements
1	Supply block 5 V DC	(AC adapter), model XC-313 voltage up to 5V current 2A.	3
2	Supply block 12 V DC	RS-300/120-S325 12V / 3A (analogues: AD PV16, P30B-3P2J)	3
3	Relay 12 V DC	Omron MY4N-j	5
4	Relay 220 V AC	Omron MY4N-j	6
5	Metal cabinet	50 sm x 75 sm	1
6	Automatic switch	C 25 A	4
7	Relay module TONGLING JC-3FF-S-Z	5 VDC 10A 250 VAC 15A 125 VAC 10A 250 VAC	5
8	Signal lamp	ART AD 16-220 D / S31 AC 220 V 20 mA	17
9	Microcontrollers	Arduino Uno	1

The implementation of energy saving in all areas of production is usually carried out in two directions.

The first direction is to reduce the amount of energy consumed in the finished product, ie to save on organic and nuclear fuels, electricity and heat. To do this, it is advisable to take the following measures:

Raising technological and production discipline to a higher level and efficient use of energy resources;

Reduction of energy losses in the production, transmission, conversion, storage and transmission and distribution of heat and electricity to consumers;

Transmission of electricity generated by power plants to remote consumers by switching to a very high voltage whenever possible;

Application of modern adaptive and software-controlled automated electric drives in electric drives of working machines and mechanisms;

Renovation, renovation and replacement of basic energy and technological devices and complexes with modern energy-saving devices and complexes;

Development of low-energy industries, improving the quality and service life of machine-building products, reducing material consumption, improving the internal management systems of energy-saving enterprises.

The second direction is to improve the self and energy balance of heat and power generation systems, increase labor productivity, as well as achieve economic efficiency in energy sectors by replacing expensive and rare materials with relatively inexpensive and non-rare materials. The use of mini-power plants based on wind, solar, biogas energy, which are non-traditional energy sources, as well as the natural flow energy of small rivers and streams, can also save organic energy sources.. Achieving cost-effectiveness through the use of additional energy resources, such as increasing the quality, reliability and service life of products or launching new products that meet consumer requirements, improving labor protection and working conditions, improving people's lives and reducing negative impacts on the environment The efforts required for this are also in this direction. Such efforts will be of an energy-saving or resource-saving nature only if the economic efficiency is higher than the cost.(1)

By using these new materials in the production of energy-efficient materials and by increasing the cost-effectiveness as a result of the reduction of production costs, this action is included in the energy saving only if the cost of the additional energy consumed is higher. [4]

Energy saving policy, as a means of improving the overall efficiency of production, includes all large-scale efforts, from the production of heat and electricity and its efficient use by consumers.

The real need of a society for heat and electricity is determined by its lifestyle, climatic conditions and level of technical development. The level of application of the modified final energy in the last link of energy resources directly in technological devices and complexes, in everyday life and in transport determines the level of development of society.

To change the energy needs of production, it is necessary to influence the non-energy productive forces of society. Saving energy in the business activities of consumers literally means energy saving.

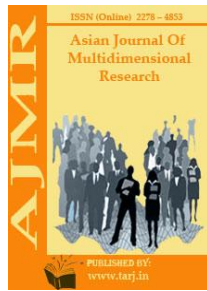
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Aslanova Gulnoz Nasriddinovna - a senior teacher of the "Energetics" of Bukhara engineering- technological institute.

Tel.: (+998 91) 407-85-06. E-mail: nr70@mail.ru.

Automation of transformer substations of industrial enterprises using modern programmable logic controllers.



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NEW STAGE OF COOPERATION BETWEEN UZBEKISTAN AND THE UN

Haydaraliev Shuhrat Abdulazizovich*

***Teacher,
Candidate Of Historical Sciences,
Namangan State University,
UZBEKISTAN**

ABSTRACT

This article shows that today New Uzbekistan is becoming an active participant in the political process in Central Asia and the world with its long-term foreign policy. The United Nations, the Commonwealth of Independent States (CIS), the Shanghai Cooperation Organization (SCO), the Cooperation Council of Turkic Speaking States (CCTS), the Organization for Security and Cooperation in Europe (OSCE), the Organization of Islamic Cooperation (OIC) and other international and regional organizations. climbed the stairs. A new format for the development of cooperation in other structures has emerged: our country has proposed a new foreign policy as an equal state with equal status as an observer in the Cooperation Council of Turkic Speaking States and the Eurasian Economic Union.

KEYWORDS: *UN, OSCE, SCO, CIS, Organization Of Islamic Cooperation, Cooperation Council Of Turkic Speaking States, Central Asia, "New Uzbekistan", Foreign Policy, Political Dictionary, Consultation, Pandemic, Islam, Tashkent Declaration, Conference, Resolution General Assembly, Aral Foundation, Human Rights Poverty, Vegetation.*

INTRODUCTION

Uzbekistan, on the other hand, has led to radical changes in the life of the region with its open, constructive and mutually beneficial foreign policy with foreign and neighboring countries. As a result, not only our cultural and educational ties, friendly relations have been restored, but also our economic and political cooperation has been strengthened. A spirit of mutual trust and respect has been formed between our peoples.

"Today, Uzbekistan has become an active participant in the political process in Central Asia and the world with its long-term foreign policy. The United Nations, the Commonwealth of Independent States (CIS), the Shanghai Cooperation Organization (SCO), the Cooperation

Council of Turkic Speaking States (CCTS), the Organization for Security and Cooperation in Europe (OSCE), the Organization of Islamic Cooperation (OIC) and other international and regional organizations. [2] There is a new format for the development of cooperation in other structures, such as the establishment of the Turkic-speaking countries in the Council of Cooperation, the observer status in the Eurasian Economic Union. As a result, not only political-diplomatic relations, but also the concept of economic diplomacy, inter-parliamentary diplomacy and the strengthening of people's diplomacy and the human factor became broadly political.

"The foreign policy of the new Uzbekistan has ushered in a new era of mutually beneficial cooperation with regional and international organizations." [1. - Б. 347-349.] As a result of the principles of openness, equality and mutual respect in our foreign policy, and the reforms we are carrying out, the attitude of the world community towards us has changed." "The foreign policy of the new Uzbekistan has ushered in a new era of mutually beneficial cooperation with regional and international organizations." [1. - Б. 347-349.] As a result of the principles of openness, equality and mutual respect in our foreign policy, and the reforms we are carrying out, the attitude of the world community towards us has changed.

As an equal member of such international organizations, Uzbekistan attaches great importance to strengthening relations with the United Nations. In particular, our country, as an equal member of the United Nations, strictly adheres to the goals and rules of the authoritative international organization. At the same time, the United Nations, as a state with its own voice and position, is advancing very important and urgent initiatives. It is known that 29 years ago, on March 2, 1992, the new sovereign state - the Republic of Uzbekistan became an equal member of the world community. Since then, we have always relied on the assistance of the United Nations in resolving our issues. Over the past five years, Uzbekistan's cooperation with the United Nations has reached a completely new level. The leader of our country is proposing a new format of dialogue in the political settlement of regional and global conflicts and conflicts. The region has a great deal of experience in constructive cooperation in the field of security. The essence of the open and constructive policy initiated by President Shavkat Mirziyoyev, he said in his speech at the 72-75-76 sessions of the UN General Assembly. The head of our state presented to the international community his views on joint action against pressing issues, threats and dangers of the regional and global agenda, and put forward a number of proposals and initiatives.

In his speech at the 72nd session of the UN General Assembly, Shavkat Mirziyoyev spoke about the creation of a new image of Uzbekistan, the priorities of foreign policy and a number of important issues:

- Gradual reform of the UN.
- Sustainability in foreign policy - Central Asia.

"It's a water issue."

"The only way to achieve peace in Afghanistan is through direct talks," he said.

- The method of combating terrorism by force has not worked.
- "Islam calls us to goodness and peace"
- Uzbekistan is open for talks.

In this way, the whole world became convinced that Uzbekistan has begun to build a democratic state and a just society. In this regard, as a result of the proposals and initiatives expressed by the

Republic of Uzbekistan at the sessions and conferences of the UN General Assembly in 2017-2018, the following:

- "Resolution on Enlightenment and Religious Tolerance"

- - "Samarkand Declaration of Human Rights"

- - It is gratifying that a special resolution and declarations called the "Tashkent Declaration" have been adopted. These documents, developed by Uzbekistan, have the unanimous support of all UN member states. It was a practical expression of the initiative put forward by President Shavkat Mirziyoyev.

The 75th session of the UN General Assembly was held in a completely new format - online due to the coronavirus pandemic.

"On September 23, 2020, at the 75th session of the UN General Assembly, President of the Republic of Uzbekistan Shavkat Mirziyoyev put forward 12 initiatives on issues such as strengthening peace and stability in the region and globally, sustainable development, ensuring human rights and freedoms." These initiatives are supported by the international community. The speech of President Shavkat Mirziyoyev in Uzbek at the 75th session of the UN General Assembly was also received with great interest by the world community. In particular, at the 75th session of the UN General Assembly in September 2020, the President proposed to adopt a special resolution declaring the Aral Sea region a zone of ecological innovation and technology.

On May 18, 2021, the UN adopted a special resolution "Declaration of the Aral Sea region as a zone of environmental innovation and technology." In general, the initiatives of Uzbekistan are actively supported at the UN level, indicating the development of a new era of our cooperation.

At the 76th session of the UN General Assembly on September 21, 2021, President Shavkat Mirziyoyev addressed the international community on topical issues of the regional and global agenda, the role of the UN in joint action against modern threats and dangers.

In this speech, the President put forward a number of proposals and initiatives:

- Referring to the COVID-19 pandemic, the head of state stressed the need to further strengthen the role of the pandemic and its socio-economic and spiritual-political consequences, vaccination and WHO in the fight against it;

- Focusing on the strategy of the new Uzbekistan;

- holding an international conference in Tashkent on the implementation of best practices in poverty reduction;

- The head of state paid special attention to the situation in Afghanistan in terms of strengthening ties with neighboring and neighboring regions.

"It is in the interest of not only us - the neighboring countries, but the whole world - to establish peace and tranquility in this country," - said the President.

"In these difficult times, Afghanistan cannot be left alone and thrown into a whirlpool of problems," he said. "The United Nations must have a stronger voice and voice than ever on Afghanistan."

- - "Propose to hold the Sixth UN General Assembly on the Environment in 2023 in Uzbekistan under the auspices of the UN;

- -Development of a General Plan of Action against Drug Abuse, covering the countries of Central and South Asia, with the participation of the United Nations Office;
- - Initiated the development of the World Environmental Charter, which aims to form the basis of a new UN environmental policy.

It is noteworthy that all these initiatives, in which the head of state puts forward such important global ideas and cares about the present and the future, are aimed at ensuring the right of people to live in peace, prosperity, abundance and security. In the future, these proposals will be supported by the world community and the international community, which will help to further enhance the image of our country.

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2. The articles passed through screening at this level will be forwarded to two referees for blind peer review.
3. At this stage, two referees will carefully review the research article, each of whom will make a recommendation to publish the article in its present form/modify/reject.
4. The review process may take one/two months.
5. In case of acceptance of the article, journal reserves the right of making amendments in the final draft of the research paper to suit the journal's standard and requirement.

