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IMPROVING THE METHODOLOGY OF TEACHING BIOLOGY IN GENERAL EDUCATIONAL INSTITUTIONS BY MEANS OF ELECTRONIC INFORMATION EDUCATIONAL RESOURCES

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ABSTRACT

In our country, special attention is paid to the education and upbringing of the younger generation. The work on creating the necessary conditions for the modern education of boys and girls and their growing up with high spirituality is being continued consistently. These tasks are of great responsibility to the school, family, neighborhood, the entire community. The work carried out in our country on improving the system of preschool education, school, secondary special and higher education, the construction of new institutions and the reconstruction of existing ones will pay off in youth maturity. Students need to pass classes in modern forms to improve their cognitive skills in biology. This article will provide feedback and feedback on improving the methodology of teaching biology in general education institutions through electronic information educational resources.

KEYWORDS: *Biology, Teaching Methodology, Electronic Information Education, Resources, Information Technology, Special Methods, Interactive Methods.*

INTRODUCTION

Information technology training is a pedagogical technology that uses special methods, software and technical means (Film, audio and video, computers, telecommunication networks) when working with information. Like all methods, teaching methods, teaching aids, perform the triad of didactic functions, which basically remain unchanged in any science-based study and perform three functions: teaching, development, education within the framework of science-related activities, taking into account the use of digital educational resources (RTR). And information and communication technologies (ICT). The use of ICT in biology lessons can improve the quality of teaching science; reflect the important aspects of various objects that visually reflect the principle of visualization; highlight the most important features of the studied objects and natural phenomena.

Teaching biology at school should be constantly accompanied by a visual experiment. However, in a modern school, experimental classes in science are often difficult due to the lack of training time and the lack of modern material and technical equipment. Even if the laboratory is fully equipped with the necessary tools and materials, it will take more time both for the preparation and conduct of a real experiment and for the analysis of the results of work. In addition, due to

its originality, real experience often does not fulfill its main purpose - to serve as a source of knowledge. Many biological processes are complex.

Children with imaginative thinking have difficulty mastering abstract generalizations, without painting they are not able to understand the process, to study the phenomenon. The development of their abstract thinking occurs through images. Multimedia animation models allow you to form an integral picture of the biological process in the student's mind, while interactive models allow you to independently "build" the process, correct its mistakes and work independently.One of the advantages of using multimedia technologies in the educational process is the novelty of the activity, an increase in the quality of training due to interest in working with a computer. The use of a computer in classes becomes a new way of organizing active and meaningful work of students, making classes more useful and interesting. Application of ICT technologies at different stages of the biology lesson:

I. In the explanation of the new material (color pictures and photos, slideshows, video clips, 3D pictures and models, short animations, plot animations, interactive models, interactive drawings, auxiliary materials) as an interactive picture shown using a multimedia projector.

II. During the independent study of educational materials, students, during the course of the lesson, carry out a computer experiment according to the conditions established by the teacher (in the form of a worksheet or a computer test), as a result of which the conclusion on the topic being studied;

III. In the organization of research work in the form of laboratory work together with a computer and a real experiment. It should be noted that when using a computer, the student will have more opportunities for self-planning experiments, their implementation and comparison of results with real laboratory work.

In the process of teaching biology, the following ICT programs can be used. Digital educational resources: the use of digital educational resources (RTR) as ready-made electronic products allows us to activate the activities of teachers and students, increasing the quality of teaching the subject, reflecting important aspects of biological objects that visually involve the principle of visualization.

Multimedia presentations: the use of multimedia presentations makes it possible to present educational material in algorithmic order as a system of bright exemplary images filled with complete structure data. In this case, various channels of perception are involved, which allow you to place information not only in factual, but also in associative form in the long-term memory of students.

Didactic materials: didactic materials - assignments, dictations, sets of exercises, as well as examples of essays and essays presented in electronic format, usually in the form of a simple set of text files in the format. doc all, rtf and. txt. The disadvantage of controlling knowledge, which is almost traditional, is that you still need to independently check the student's handwriting, the grade for them. This work can be automated. The teacher, without resorting to a text editor, can compose didactic material for himself, using a specialized program for this.

Curricula: curricula serve as didactic materials and can monitor the process of solving problems and reporting errors. An important aspect of using computer technology is preparing for the exam. There are many electronic teachers for teaching.With students who decide to take an exam in biology, I can benefit from the simulator program "preparing for the new school: Express exam".The convenience of these simulators is that they simulate the exam as much as possible: all parts have tasks and are being calculated. Students can find out how many correct and incorrect answers they have received, as well as how many points they have received. Incorrect answers can be corrected immediately using theoretical materials and short abstracts. In such simulators, as a rule, there is a diary in which the student's knowledge is controlled.

Virtual experiment Systems: Virtual experiment systems are software systems that allow students to experiment in a "virtual laboratory". Their main advantage is that they allow the reader to carry out really impossible experiments for security reasons, due to time characteristics, etc. The main disadvantage of such programs is the natural limitation of the model installed in them, beyond which the listener cannot enter the framework of a virtual experiment.

If we use "electronic lessons and tests" - this is a number of educational programs, these are electronic textbooks on topics related to the main school subjects. They can be used in any of the current school books. Programs in this series are harmoniously combined with promising areas of school education of modern computer technology, become an indispensable assistant for students and make the learning process more efficient and interesting.Textbooks fully cover the topics of the school course and often contain a large amount of additional information in addition to the school curriculum.

Software management systems: the knowledge control software system includes questionnaires and tests. Their main advantage is fast, convenient, impartial and automated processing of results. The main disadvantage is a flexible response system that does not allow the test subject to demonstrate their creative abilities.When studying the course "Man" in the 8th grade, I use the multimedia textbook "biology". Human anatomy and physiology, tests No. 9, for example, "sentence ending", "correct fit" and others.

Video and audio materials: conducting classes using a Video player increases students ' interest in the subject. Foreign producers of popular science documentaries such as National Geographic, Discovery and others have a lot of topics to show in biology classes. In classes on the variety of animals and plants in grades 6-7, video materials can be used that tell about the life of reptiles, amphibians, mammals, fish, birds, insects and plants.

Thus, the application of ICT in the process of teaching biology increases its effectiveness, makes it more visual, rich (the intensity of the educational process increases), helps schoolchildren develop various general educational skills, improves the quality of the lesson and facilitates work in the lesson. The use of ICT in biology lessons allows me to make teachers aware of the trends in the development of pedagogical science. Raising the professional level, expanding knowledge, most importantly, by directing the student to success, allows you to strengthen the motivation for learning through active communication between the reader and the computer; learning basic knowledge in biology, systematizing them; the formation of skills for independent work with textbooks and additional literature. The source of information using ICT is not only the teacher, but also the students themselves.

CONCLUSION

At the present stage of the development of school education, the problem of using computer technology in the classroom is becoming very important. Information technology provides a unique opportunity not only for the student, but also for the teacher. A computer is not a substitute for a teacher's Living Word, but new resources facilitate the work of a modern teacher, make it more interesting, effective, and increase students ' interest in studying biology. The use of advanced video technologies and specially developed computer graphics makes it possible to track the work of organisms as if from the inside, to find their features and puzzles. It provokes a huge feeling and increases the level of assimilation of material, stimulates initiative and creative thinking.

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