# EMERGENCE OF ONLINE TEACHING – LEARNING AMIDST COVID-19 CRISIS IN INDIA: IMPACT, ISSUES AND FUTURE PROSPECTS

# Abhishek Sarta\*

\*Assistant Professor, Department of Public Administration, Sri Guru Gobind Singh College, Sector-26 Chandigarh, INDIA Email id: abhisheksarta@gmail.com

## DOI: 10.5958/2278-4853.2022.00240.3

# **ABSTRACT:**

The online teaching-learning in India was not much in vogue before the year 2020 when it became a compulsion due to the outbreak of COVID-19 pandemic world over .There were only very few schools, colleges/higher education institutions using technology or the digital platforms for dissemination of information, teacher –student interactions or we can say in the teaching-learning process as a whole. For the first time in the history of India we have seen whole education system getting transformed into a completely digitalize pattern, but this change came up in the form of a forced intervention due to the COVID-19 crisis .However, it can be taken as a blessing in disguise as its high time for us as a country to explore the new dimensions of learning that are available for students and keeping the teachers well equipped and technology ready in this continuously changing World .The online learning platforms has helped in ensuring the continuity in learning during these tough times . The present study seeks to highlight the impact of online teaching –learning on the overall education, issues that make the implementation difficult. It also gives suggestions about the future course of action as how we can go about the online learning to enrich the overall teaching experience post COVID-19.

#### **KEYWORDS:** COVID-19, Online Learning, Technology, Education, Digitalization.

#### **INTRODUCTION:**

The COVID-19 has created the biggest turmoil in the education system that history has ever witnessed as it has affected nearly 1.6 billion learners around the world who belongs to 190 plus countries across different continents. The closing down of schools, colleges and other institutions imparting education have impacted 94 per cent of the world's student population, up to 99 per cent in low and middle income countries. This crisis has further intensified the already existing disparities in education for people residing in rural areas, for people who are poor and the ones having any kind of disability. It has made difficult for them to continue their education amidst this crisis. Based upon an estimate nearly 24 million children and youngsters (from preprimary to tertiary level of education) may drop out or not have access to school from next year due to the pandemic's economic implications alone (United Nations, 2020)Majority of Nations in May–June 2020 are still unclear about the fate of education .They are unsure and yet not decided on a reopening date of schools and educational institutions. This uncertainty around the

future will have enormous social and economic implications and will leave a long lasting effect on educators, on children and youth, on their parents and on the society as a whole. (United Nations, 2020).

The conventional classroom teaching was replaced by online learning during the time when the world was under the complete lockdown situation in order to curb the spread of the COVID-19 virus. It was felt that the gathering in the educational institutions could prove out to be fatal keeping in view the severity of the situation .It was thought that E-learning is the best available option to ensure that pandemic do not spread. In India initially the cases of COVID were very few but India imposed a lockdown in the month of March 2020 to prevent the spread of virus .But once it was lifted the pace of spread seen an upward surge with many of the people losing their lives to the deadly virus .So again India went for lockdown and it continued in phases .The foremost problem India was facing during this time was of ensuring essential services and food supplies to the people of the country .However, the problems were many but one concerning the students and their parents was how will education go on from here .As there was uncertainty about the nature of the virus, expected vaccination ,mass gatherings and so on .Online teachinglearning came to the rescue of the students during this phase as schools, colleges started delivering lessons via online mode on different platforms like google meet, Zoom, Microsoft teams etc. The continuity in the studies was made possible with the introduction of online learning process. Otherwise there were confusion surrounding the future of learning in the country. This has also created a lot of problems as preparedness and training for adoption of any such change was lacking .But, the matter of the fact is online teaching has ensured the continuity for the student in their respective educational fields, they did not have to put any breaks on their learning during those difficult times as well.

During this phase of uncertainty, the online learning emerged as a savior for the students studying at different levels in the education system. Online learning refers to digital learning ; as it involves technology and an internet connection to make this happen. Digital learning is not only limited to having online classes ,it has much more to offer .It includes converting books into pdfs, smart classrooms, use of internet ,online quizzes /tests, webinars, creating communities online and so on .All these dimensions related to digital teaching and learning helps in broadening the scope of learning for students and their personal development. Being open to this idea of learning gives access to a larger population, provides more personalized learning for students, offers flexibility in learning, and it can prove out to be more engaging at times. But it is something which is unexplored and the preparedness to implement any such change in minimal at the moment. It is the technology that overcomes the barrier in the learning during the time of any crisis. The colleges in New Zealand became more resilient with e-learning in the aftermath of the seismic activities in 2010 and 2011. The availability of the IT enabled infrastructure definitely helps in dissemination of information and in maintaining the continuity in learning during these crisis like situations .There were e-learning tools already available with the college and many others were also introduced after the seismic activities were on a high in the state (Ayebi-Arthur, 2017).

#### **Objectives of the Study:**

• To learn about the impact of online teaching-leaning on the overall education system which includes students, teachers and educational institutions?

- To know about the issues those acted as a barrier in the successful execution of online teaching learning processes.
- To give recommendations about the future of online learning and how to go about the online teaching post COVID-19 in order to enhance the overall learning process.

#### Methodology:

The study is descriptive in nature as it attempts to recognize the present scenario of the online teaching –learning in India, its impact on the overall education system and the issues associated with online learning. The study is completely based on secondary data sources .A systematic review of the sources was done for the collected available literature. The secondary sources that are used for the data collection consists of research articles, journals, magazines, study reports, newspapers and other published and unpublished works.

#### **Impact of Online teaching-Learning:**

The impact of any intervention has do to with the kind of results it fetches and how to shapes the existing phenomenon in totality. It could be positive as well as negative, introduction of online learning has left us with mixed reaction pertaining to the kind of impact it has on the overall education system in India, The impact it has on the overall learning can be studied form both the perspectives i.e. what good it has done to the overall learning process and what negatives can be seen post its introduction .The **positive impact** of the online teaching are follows:

**Flexibility in Learning:** The online learning provides the students and the teacher with some flexibility in planning the lessons by reaching a common consensus. This kind of flexibility gives both the student and the teacher that breathing space that they can take a break in case there are continues classes going on and the schedule is too packed, in that case adjustments can be made .And there are few teachers who also send recorded lectures and pdf which can be accesses by the student at any point of time during the day and as many times the student want it can help him/her adjust the pace of learning. This flexibility during the crisis also gave students some sort of relief as they can have access to these classes and learning resources based upon their convenience and existing situation in the family.

**Reduced the Burden related to Studies:** With flexibility comes some mental and physical relief for the student specially as they know that they do not need to rush up with things to reach schools and colleges and make all the necessary arrangement. They can have access to the classes form their homes only, it somehow puts students in a frame of mind where they are more relaxed and free from any kind of worries and on top of that online study tools like pdf, video lectures can help in reducing the mental burden also as they know it will give them an option to set the pace for their learning and they can repeat it time and again till the time they understand the concept.

Assured the continuity of Studies: It was only through online learning that the continuity in the studies of learners studying at different levels of education have been ensured during the pandemic when almost 190 plus countries of the world was under lockdown including India it became possible for the students to continue their journey of learning through online teaching and digitalization of the process. Education platforms like google meet, google classroom, Zoom, WebEx were used world over by the educational institution to maintain the continuity in the

learning. In absence of such arrangements it would have not been possible to ensure the education for all in these difficult times because physical interactions were completely restricted including in the educational institutions.

**Cost** –**Cutting:** The shift to the online mode during the pandemic has helped those students who use to travel to their schools and colleges via different modes of transportation and the ones who use to live in hostels and the rented accommodations .It has cut down these expenses of the students and had not created extra burden on their parents during the crisis like situation .It has helped families divert those funds which would otherwise been spent on these facility towards their basic living needs during the pandemic. Generally also online or distance learning mode does help in saving in these aspects i.e. traveling, rents, hostel etc. for a student and a family.

To be honest the online classes on one hand had proved out to be a saviors during the pandemic but it has also done more harm as it was only during the initial days of lockdown when student were worried about their studies but off late they have started enjoying these online classes because it has also given them enough liberty which they are using in a negative way and started taking it all very casually as they realized that their studies will not get hampered, there will be lesser restriction related to attendance, class participation and they will pass the examination easily with everything going online due to the absence of any mechanism to prevent cheating and coping in the paper as institutions are at the earliest stage of implementing this change .

#### **Negative Impact of Online Classes:**

The shift in the learning process to online mode has also impacted the overall education system in a negative way. The seriousness towards the studies among the students has seen a low because of these online classes, interactions among students- teacher has also been very limited, exam preparation levels are very disappointing. Some of the negative impacts of these online classes are explained below:

**More Screen Time:** The online class has further lead to the greater usage of Smartphone and electronic gadgets. With students attending their classes online it has given them an excuse that it is compulsion for them to put in more time with their Smartphone and the gadgets .This will create severe health issues in the years to come with more and more screen addiction .Moreover, it will definitely going to have a bad effect on the eyesight of the students and even at the teachers as well ,as spending more watching the screen will definitely going to affect eyesight ,sleep pattern and will cause other health related issues. Nearly 1500 parents in Canada in the month of April 2020 raised serious concern about the physical activity, screen time and sleep habits of their wards (Hulick, 2020) . Prolonged Screen exposure has an impact of brain development and the sleeping habits among the children specially the younger ones. It can further lead to numerous health related problems and can affect the overall development of the child (Wong, 2021)

**Problem of Engaging Students:** During the online classes it becomes very difficult for a teacher to engage the student, to keep the students motivated. The teacher has to keep on putting in a lot of effort in order to make the classes lively and involve the students .With more number of students it is even more difficult as the interaction are limited ,only few are responding in the class ,these online classes are somewhat monotonous .And at the same time the students are also least interested in showing their participation and engagement because they know they cannot be

monitored continuously and they take advantage of that .So this increase the problem for a teacher and creates frustration.

**Feeling of Isolation among Students:** Sitting at home and attending classes via online mode has also increased the isolation among students. Unlike the offline classes the students are confined to their homes and there are no interactions among themselves .The students are also missing the charm of the schools and the colleges ,going out , spending times with friends ,playing sport, meeting new people .The online mode has not much to offer on these lines .Thereby, it is creating a void in the life of students as they are locked within their homes in front of their phone screens which is creating a feeling of isolation and anxiety which is not good for their health and psychological and mental well-being. The most serious concern in relation to these online classes is absence of social interaction among students, the home environment which can never become an office or the school environment, including poor network connection and insufficient data bandwidth, and lack of motivation and efforts towards the active learning. The students do collaborate in digital groups but those organic connections are missing. (Almendingen K, 2021)

**Increase in proxies:** The online classes have given the student the liberty to use proxies quite often. sometime it is their friends attending classes and sometimes their own family members these type of things dilute the whole idea of taking classes .A teachers come well prepared for classes and when he come to know that he is not even teaching the actual students it is not a very good feeling .And there is no mechanism of ensure that whether the student is actually present there or not. The students come up with excuses like sometimes the students complaint of connection error, and of things like they are outside or with family and cannot turn on their cameras.

**Lesser participation and Interactions:** There is very less participation from the student's side in the online classes .Students hardly asks questions and merely give any responses to the questions being asked by the teacher. The online teaching creates a passive kind of learning environment where it is difficult to identify whether the students are able to catch up with the lesson being taken up in the class .However .the passivity from the student also acts as a hurdle where teacher feel there is no point in putting extra effort looking at the passivity shown by the students. So to extract participation out of students in online classes is a problem for a teacher.

#### **Quality Concern:**

It is considered one of the obstacles in execution of the online classes that whether a teacher can deliver the quality with online classes as compared to what he or she can in the offline classes .There are so many factors which hinders the quality these include lack of feedback , absence of face to face interaction ,observation about body language, passivity shown by students classroom environment .The presences of all these which are absent in online classes comes handy in an offline classroom scenario. Whereas, in online classes it hinders the quality of the content delivered .And when asked from the teachers as well they feel it is really difficult to give the kind of quality that you can deliver to the student in the classroom environment. Academicians and the experts who understand online learning process has a fair idea that it has significant number of challenges not only for the teachers but also for the students who are not well versed with the technology. Teachers who are really good in capturing the attention of the students, extract participation in the offline classes will not be able to translate the same in the online classes as that transformation in itself is very difficult (Sharma, 2020).

#### **Issues related to Online Learning:**

The online learning however has given students and teacher relief on some of the fronts during the times of the COVID -19.But in the meanwhile there were so many issues in the successful conduct of these online classes as there were no preparedness on so many fronts and it was comparatively new for everyone so that behavioral adaptation was also a key issues .For anything to reflect positively in terms of results, behavioral change should come first which was missing here along with the required infrastructural preparation. There are many problems associated with implementation of online teaching-learning. The various issues related to the successful conduct of change are given below:

**Preparedness of the Institutions:** It was very new for the institutions to shift to online mode of teaching –learning ,There are only few institution providing distance education in India these are the only ones using online learning as a tool before the pandemic also rest all were operating in the offline mode .So the preparation for this was not even at the initial stages as this change came out of a compulsion .So the institutions during the early stage of implementation has faced a lot of issues related to how to execute this whether to call the faculty members to the institution to prepare them for the class or let them work from their home .Also there were confusion related to what kind of support can be given to them for these online classes.

Lack of Training for Teachers: The teaching faculty in India and overseas consists of different age groups. For technologically driven people it was relatively easier to adapt to the online classes. Whereas the old age group of teachers had to face a lot of difficulties in executing these classes .There were a greater number of teachers who were not given any proper training. They must have followed learning with other sources and internet but these type of learning have their own limitations .And to older generation of academician it was relatively very difficult to learn how to conduct these online classes how to make sure that the ideas gets conveyed to the students .

**Digital Divide:** There is a huge digital divide in India. When it comes to the cities and the urban areas people are well versed with technology, using smart phones and other electronic gadgets. But in rural areas people have lack of digital literacy and low internet usage. People only use normal phone for voice calls, they are not into the world of Smartphone, the life is relatively simpler and they do not understand much of these online classes, digital learning and related concepts. For them learning through conventional methods is the best suited. They do not support this concept of online learning because of these limitations they have living there in the rural areas.

**Affordability:** In a country like India where majority of people falls in the category of the low income households it is really difficult for people to give their wards smart phones and the other necessary gadgets those are required for online learning this also includes internet data packs on monthly basis .There are so many schemes like Sarva Shiksha Abhiyan (SSA) ,various scholarship schemes for different categories of people to ensure that the disadvantageous can get free or affordable compulsory education .Keeping in view the number of students availing these benefits it can be easily figured out that affordability of online education is a distant dream for a considerably large section of learners .And many belonging to these households faced problems during the times of COVID-19in relation to online classes and learning .

# Asian Journal of Multidimensional Research

ISSN: 2278-4853 Vol. 11, Issue 9, September 2022 SJIF 2022 = 8.179 A peer reviewed journal

**Connectivity:** Nearly 60 percent of Indian population resides in the rural areas where the internet connectivity does poses a problem for people at times .Keeping in view the issues of connectivity it adds to the problems of the student when it comes to online mode of learning as they are continuously facing issues related to connectivity ,continuous interruptions in connection .All these makes them more worried about whether will be able to learn to the full of their potential .During the exams they are worried about whether they will be able to submit their exams within the given time or whether they will be have the access to question paper and the website .And the learners do not encounter these issues and concerns when it comes to offline face-to-face learning ,that feeling of insecurity is not there in the student all they are expected to do it reach the class .

Lack of connectivity was reported as the major issue in online learning. People living in the rural, remote India have no or low access to internet .The study highlights how it is digitally divided and how lack of access to uninterrupted internet services has been affecting the learning of the students in the country. The other two concerns are data limit and data speed which is again a limitation of the internet infrastructure available within the country. These clearly gives a message that the focus should be on strengthening the internet services available within the country only then some streamlining can be brought into these online classes(T. Muthuprasad, 2021)

**Technical Expertise of the Students:** Not all students are well versed with the technology .Neither they are given any specific training prior to the outbreak of the pandemic to use such platforms providing online access to education and learning .In the absence of such expertise and training it is sometimes difficult for the student also to get a grip of things for successful completion of these online classes and lessons. For a number of students accessing these platforms was relatively new due to which various problems were faced by the students during online classes.

# Future of Online teaching In India:

During the peak times of COVID-19, online teaching has completely changed the way people use to learn. But analyzing the imprints of online teaching on the overall education system it can be said that we cannot completely switch over to this mode of learning as it has more negatives associated to it than the positives .This can be used strategically to make learning more innovative and less burdened for the students. Blended mode could be seen as a possibility going ahead as it can release the pressure off from the students and will make the learning more experimental .But if we see online classes as a replacement for the conventional way of teaching -leaning keeping in view all the negatives associated with online learningit is not a very ideal thought to make it a priority for the future course of action. The internet bandwidth is a problem and the data package are very costly in few of the developing countries thus making it a big problem of affordability and accessibility of these online classes for people living within these countries. There is need to have policy-level intervention to improve this situation. Further there is need to explore more innovative ways of effective learning pedagogy for online teaching and learning. Another area of study shows there is need for developing tools for authentic assessments and timely feedback. The educational tools developer could work on customization of the applications by solving the need of affordability and accessibility for learners belonging to different economic background. Looking at the present scenario, there is a need for the education

system to contribute to the professional training and development of teachers, especially in the field of ICT and effective pedagogy. This will prepare the education system to face such uncertainties in the future.

COVID-19 crises emphasize the need of training and development in the field of education. Teachers and students should be given proper training to use different tools available for online education. Continuous orientation and up gradation of skills should be there from time to time. Whenever the classes will resume with offline mode after the COVID-19 pandemic, the online teaching should be followed as a continuous process to enhance usage of online tools for the process of teaching and learning, all the teachers and students should be encouraged to such learning(Pokhrel). There will be a need of putting that extra effort on the part of the instructor to deliver the same outcomes as in case of a face- to -face course .The online delivery will cost more either in the form of the cost to deliver the same quality as expected in a face -to face classroom interaction or costs of lost or unachievable learning outcomes. There are other problems as well students at times might report that it is perfectly fine they are learning well in the online classes but their marks and the manner in which they attempt these papers shows some contradictory results ,. However, online classes are the only option for people like working professionals parents who cannot leave their homes due to some life commitments it could prove out to be a good option for these people as it gives these an option to strike a balance. (Sharma, 2020). Many participants during the study in this research reported that technological barriers, distractions of the surroundings, instructor and learner's inadequacy, ineffectiveness and unwillingness, health issues including feeling of isolation are various challenges of online learning. But the biggest challenge remains the access to technology and its usage. Online classes require access to internet therefore excluding people who have no access to internet. Slow internet connection resulting in difficulties to access of the lessons and the learning platforms. For the successful implementation of Online learning the internet facility should be provided to the learners at equitable and affordable costs (T. Muthuprasad, 2021). In the aftermath of corona virus the students felt that online learning does have a positive impact on the overall education Online learning provided flexibility and system and has helped them during the crisis. convenience which turned as an advantage for learners. However, a number of students reported that due to various technological constraints online classes are more challenging than conventional classrooms. There is lack of motivation, unresponsiveness of students and failure of the instructor to communicate the information effectively to the students. Therefore, the online course should be designed keeping in mind all these possibilities .It simply means that there is need of modification in the curriculum also for the online classes. And there is a possibility that once the COVID-19 pandemic settles down, we may see this trend of online teaching growing continuously with a shift to hybrid mode in education systems using in combination with regular classes.(T. Muthuprasad, 2021)The study focuses on the fact that the educational institutions and policy makers should plan the implementation of online-based learning by adopting new techniques of digital learning. The teachers and the students should be trained to make online learning more effective and les monotonous during ongoing situation of COVID-19. The government should work on bridging the gap of digital divide so that no students will be left out of the learning in any case whatsoever. The government must ensure that the building infrastructure to support these types of learning should be the priority. (Khan MA, 2021)There are varieties of online platforms available which have been worked upon by many Edu-tech

# Asian Journal of Multidimensional Research

ISSN: 2278-4853 Vol. 11, Issue 9, September 2022 SJIF 2022 = 8.179

A peer reviewed journal

platforms with focus on infrastructure. Providing such platforms at affordable prices and ensuring easy accessibility is still a challenge keeping in view the fact that learners are from varied economic backgrounds. And it is even more difficult for students with special needs to get anything substantial out of theses online classes as they might find it difficult to move along with the pace of online learning. It requires detailed training and involvement of family, many caretakers and parents at home are not able to cater to such needs, hindering the learning of this group of learners. Therefore, one needs to invest more time and resources to review and research the best possible course of action for the special educational needs (SEN) of learners. There also exist issues about the reliability of the online examination and assignments. It becomes difficult for the educator to identify whose work is genuine and whose not. (Pokhrel). Majority if the students preferred that classes should get to the normal classroom teaching instead of these online classes .Some of the respondents, feels that combined approach of both conventional and online classes could be a future course of action for effective learning (Khan MA, 2021). The large number of the respondents feels that these online classes are not very much comfortable as compared to offline classes they feel that interaction with teachers in online classes are very limited and there is no motivation to study due to a lot of distractions at home as you cannot create the atmosphere of a classroom in your homes. Some students expressed that they have felt the social isolation because of these classes which cuts you from the society and social interactions completely. (Khan MA, 2021)

Keeping in view all the positives that this digital teaching –learning can offer to the society, we need to realize that there is nothing in this world that can replace a teacher and a classroom environment/Interactions .It is an obvious fact that an interaction for a student in a classroom with a teacher or among themselves is something which will always remain a prerequisite of a true learning experience for a student .It is something which is irreplaceable and no form of digitalization can offer you this .But at the same time we need to accept the fact that with the changing time we need to adapt to the changing technology ,environment, learning processes only then we can survive in this fast growing , ever changing world as students and teachers.

#### **CONCLUSION:**

We need to accept the fact that this paradigm shift to online teaching -learning has helped students, teachers, the educational institutional immensely during the peak times of the crisis as it has ensured the continuity in teaching and learning .Moreover this change was forced because of the circumstances that were being created by the COVID- 19 virus in the country and all over the World. During the complete lockdown situation where physical interactions completely went for a toss the online teaching came in as a savior for the students more specifically .Right from the a schools going student to someone who was pursuing their PhD or any higher degrees from the higher education institutions, it helped everyone by making sure that their studies do not suffer ,gaps should not occur, timely submission of thesis, conducting of exams, viva should be there .However this abrupt change has also caused a lot problems on the part of teachers, institutions students ,parents when it comes to ensuring access, digital literacy ,affordability ,institutional preparedness, use of technology and so on .All these issue poses as a stumbling block in the implementation of this change. We can say that the online platforms has made the life easier with flexible learning .But consequently it has also created issues like problem of isolation, stress and other health concerns .Therefore we cannot say that it can be seen as a future course of action post COVID when the life will get back to the normal .But it can be used in way that it reduces

# Asian Journal of Multidimensional Research

ISSN: 2278-4853 Vol. 11, Issue 9, September 2022 SJIF 2022 = 8.179 A peer reviewed journal

the burden on the student and the teacher and provide them a flexible learning environment at the same time we need to realize that complete online mode of teaching learning is not a very ideal situation for any of us and it has a lot of issues and that teaching environment of a class and interactions like that of a physical class cannot be reflected in these online classes .It can only be used as an enabler keeping in view the positives it brings along with it .The policy makers and the institutions with the consultations with teachers ,students ,parents and general analysis can introduce an element of online teaching in the future course of action to make teaching learning more interesting and playful but this can never be substitute for the classroom learning .

## **REFERENCES:**

Almendingen K, M. M. (2021). Student's experiences with online teaching. PLOS ONE, 1-16. doi:https://doi.org/10.1371/journal.pone.0250378

Ayebi-Arthur, K. h. (2017). E-learning, resilience and change in higher education: Helping a university cope after a natural disaster. E-Learning and Digital Media, 259–274.

Hulick, K. (2020, september Friday). Science News for Students. Retrieved from https://www.sciencenewsforstudents.org/article/healthy-screen-time-is-one-challenge-of-distance-learning

Khan MA, K. T. (2021). School Students' Perception and Challenges towards Online Classes during COVID-19 Pandemic in India: An Econometric Analysis. Sustainability. doi:https://doi.org/10.3390/su13094786

Pokhrel, S. &. (n.d.). A Literature Review on Impact of COVID-19 Pandemic on Teaching andLearning.HigherEducationfortheFuture,133-141.doi:https://doi.org/10.1177/2347631120983481

Sharma, K. J. (2020). REIMAGINING A FUTURE FOR ONLINE LEARNING. SSRN Electronic Journa. doi:http://dx.doi.org/10.2139/ssrn.3578310

*T. Muthuprasad, S. A. (2021). Students' perception and preference for online education in India during COVID -19 pandemic. Social Sciences & Humanities Open. doi:https://doi.org/10.1016/j.ssaho.2020.100101* 

United Nations. (2020). Policy Brief:Education during COVID -19 and beyond. united Nations.Retrievedfromhttps://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg\_policy\_brief\_covid-19\_and\_education\_august\_2020.pdf

Wong, A. (2021). Prolonged Screen Exposure During COVID-19—The Brain Development and Well-Being Concerns of Our Younger Generation. frontier in public health, 1-3. doi:https://doi.org/10.3389/fpubh.2021.700401