

# Impact of COVID-19 on Education System in India: A Review

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**Abstract-** *When educational institutes are closed, children and youth miss out on social contact, which is essential for learning and development. As a result, they are deprived of opportunities for growth and multidimensional development. Due to sudden shift to online learning without any planning especially in countries like India, students seem to be losing interest due to low levels of attention span. New ways of delivery and assessments of learning outcomes will have to be adopted which opens immense opportunities for a major transformation in the area of curriculum development and pedagogy.*

**Indexed Terms-** Covid-19, Education, Learning.

## I. INTRODUCTION

Covid-19 is a zoonotic disease with intermediate host. Intermediate host for SARS-CoV is palm civet and camel while the possible intermediate host for SARS-CoV-2 is pangolin or snakes. The reserve host for all the three is bat. Bat carries so many viruses and around 200 corona viruses without getting sick. So the primary mode of transmission is from bats to intermediate host to humans. The transmission of Covid -19 can be direct in the form of droplets produced during sneezing, coughing, speaking and accidentally inhaling the droplets in a closed proximity of an infected person. Droplets are water holding entities of diameter more than 5µm and these can be caught by a healthy person within a certain range of 1 m approximately. The indirect transmission is when virus is deposited on a dead surface like door bells, lift buttons, stairs, vegetables, fruits etc. which may come in contact with rest healthy persons frequently. From here the virus reaches to eyes, nose and mouth and finally leads to a new corona patient. Even fecal matter of infected person is found to be the transmitting

source hence it can spread through fecal-oral transmission (Kumari and Shukla, 2020).

The petrifying and severe impact of Covid -19 has shaken the world to its core. Further, most of the Governments around the world have temporarily closed educational institutions in an attempt to contain the spread of the Covid -19 pandemic. These nationwide closures are impacting over 91% of the worlds' student population. In India too, the government as a part of the nationwide lockdown has closed all educational institutions, as a consequence of which, learners ranging from school going children to postgraduate students, are affected. School closures impact not only students, teachers, and families, but have far-reaching economic and societal consequences. The impact was more severe for disadvantaged children and their families, causing interrupted learning, compromised nutrition, childcare problems, and consequent economic cost to families who could not work (Verma and Prakash, 2020). The lockdown has interrupted the regular academic session. Primary and secondary school students are most affected because most of them are cut off from the academic interactions with their teachers. The disruption in education and learning could have medium and long-term consequences on the quality of education, though the efforts made by teachers, school administrations, local and national governments to cope with the unprecedented circumstances e-learning.

School closures negatively affect student learning outcomes. Schooling provides essential learning and when schools close, children and youth are deprived of opportunities for growth and development. The disadvantages are disproportionate for underprivileged learners who tend to have fewer educational opportunities beyond school. Student

dropout rates tend to increase as an effect of school closures due to the challenge of ensuring all students return to school once school closures end. This is especially true of protracted closures. Schools are hubs of social activity and human interaction. When schools are closed, many children and youth miss out on social contact that is essential to learning and development. When schools close parents are often asked to facilitate the learning of children at home and can struggle to perform this task. This is especially true for parents with limited education and resources.

The UNESCO estimates that about 32 crores students are affected in India, including those in schools and colleges. In response to school closures, UNESCO recommended the use of distance learning programmes and open educational application and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education. But due to lack of access to technology or fast, reliable internet access can prevent students in rural areas and from disadvantaged families. Lack of access to technology or good internet connectivity is an obstacle to continued learning, especially for students from disadvantaged families. The disruption in education and learning could have medium and long-term consequences on the quality of education, though the efforts made by teachers, school administrations, local and national governments to cope with the unprecedented circumstances e-learning.

UNESCO is supporting countries in their efforts to mitigate the immediate impact of school closures, particularly for more vulnerable and disadvantaged communities, and to facilitate the continuity of education for all through remote learning which seems a viable solution to students during this time as they offer convenient, on -the- go and affordable access to lessons. Therefore, the government has come up with e-learning program. As a result, education has changed dramatically by sudden shifting the class room teaching to online teaching from with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms. Research suggests that online learning has been shown to increase retention of information, and take less time. It is clear that this pandemic has utterly disrupted an education system.

There is evidence that E-learning can be more effective in a number of ways. Some research shows that on an average, through online teaching, students obtained 25-60% more study material in compared to classroom teaching because e-learning requires 40-60% less time to learn than the traditional classroom setting because students can learn at their own pace, going back and re-reading, skipping, or accelerating through concepts as they choose.

#### A. Negative impacts of COVID-19 outbreak on education

The speed of the spread of the epidemic, the closure of higher education institutions and the transition to online teaching was so swift that it hardly gave any time to plan and to reflect on the potential risks or the potential opportunities that such a sudden change could bring. Given such a situation it is important to look at the impact and reflect on what has transpired and what is likely to happen as we move forward in the field of global education.

The sudden shift to online learning without any planning especially in countries like India where the backbone for online learning was not ready and the curriculum was not designed for such a format has created the risk of most of our students becoming passive learners and they seem to be losing interest due to low levels of attention span. Added to this is that we may be leaving a large proportion of the student population untouched due to the digital divide that is part of many developing nations including India.

Online learning is a special kind of methodology and not all teachers are good at it or at least not all of them were ready for this sudden transition from face to face learning to online learning. Thus, most of the teachers are just conducting lectures on video platforms such as Zoom which may not be real online learning in the absence of a dedicated online platform specifically designed for the purpose. There is a risk that in such a situation, learning outcomes may not be achieved and it may be only resulting in engaging the students.

#### B. Positive changes in education due to Covid-19

Any change that is so disruptive is also likely to bring with it some new opportunities that will transform the higher education system worldwide and especially in a country like India which is planning to bring about a

planned reform in this sector. This will require all teachers to become more technology savvy and go through some training to bring them to the level that would be required.

Universities and colleges will shift to a model of blended learning where both face to face deliveries along with an online model will become a norm. A great opportunity will open up for those companies that have been developing and strengthening learning management systems for use by universities and colleges.

There is a great opportunity for universities and colleges to start improving the quality of the learning material that is used in the teaching and learning process. Since blended learning will be the new format of learning there will be a push to find new ways to design and deliver quality content especially due to the fact that the use of learning management systems will bring about more openness and transparency in academics.

There is a new opportunity where collaborative teaching and learning can take on new forms and can even be monetized. Faculty members/ teachers can deliver online courses to even students from competing institutions. Collaborations can also happen among faculty/teachers across the nation to benefit from each other. Finally, it is expected that there will be a massive rise in teleconferencing opportunities which can also have a negative impact on the travel.

A large number of academic meetings, seminars, conferences and webinars will move online and there is a possibility that some new form of an online conferencing platform will emerge as a business model.

C. How is the education sector responding to Covid - 19?

Several universities have asked their faculty to keep giving online classes and supplying reading material through emails. In a nutshell, for more mature students, the traditional class room education is turned into e-class room education system. This is a global turning point for adopting this new 'e-education

system' and 'work from home' cultures which are being endorsed by institutions and individuals.

This unplanned and rapid move to online learning without any training, insufficient bandwidth, and little preparation will result in a poor user experience. This is not conducive to sustained growth; others believe that a new hybrid model of education will emerge, with significant benefits. This changed the way of teaching enables the teacher to reach out to their students more efficiently and effectively through chat groups, video meetings, voting and also document sharing, especially during this pandemic. Thus it is believe that the integration of information technology in education will be further accelerated and that online education will eventually become an integral component of school education.

In response to significant demand, many online learning platforms are offering free online classes or attractive discounts on e-learning modules, including platforms like BYJU'S, a Bangalore-based educational technology. Some companies like LARK, a Singapore-based technology provide a one-stop shop for teachers and students. Initially it offers unlimited video conferencing time, auto-translation capabilities, real-time co-editing of project work, and smart calendar scheduling to the teachers and students. To do so quickly and in a time of crisis, Lark ramped up its global server infrastructure and engineering capabilities to ensure reliable connectivity. Thus E-learning also comes as an interesting and interactive alternative as compared to classroom teaching.

D. Is the digital education as effective as mainstream education?

Even before Covid-19, there was already high growth and adoption in education technology like language lab, virtual tutoring, video conferencing, on line classes and on line learning software. If online learning technology can play a role here, it is incumbent upon all of us to explore its full potential. Keeping in mind many countries are wondering whether the adoption of online learning will continue to persist post-pandemic, and how such a shift would impact the worldwide education market.

This pandemic has made all the educational schools across the world to adopt teaching online. Courses are conducted online, examinations are conducted online and assignments are submitted through email. For countries like India, this is a good opportunity to strengthen the internet connectivity across rural India. Every village and towns in India should be digitally connected for better interaction between the students and teachers. Institutes like IITs have “a sort” of infrastructure to connect students but the experience shows that not all students had good interaction due to various reasons. Some of the students are quick to adapt to this system and some take little longer time to acquaint with this system. India should establish a good infrastructure for online education like some of the advanced countries. The greatest advantage of such a system is education can become international. Advance institutes like IITs and NITs can globalize online education while Universities, initially, nationalize online education. Fundamental structural changes should be made in the curriculum/syllabi and programmes should be popularized to attract students across the countries.

According to Dr Francisco Marmolejo, advisor to Qatar Foundation in India, higher education needs to be re-designed. It should be more flexible, more innovative, more international but more locally connected and socially responsible, more collaborative and less risk-averse. Innovative models should be introduced in Universities/institutes curriculum for providing internet-based learning. Of course, there are challenges one has to face at the initial stages: e.g. leveraging technology to deliver better and more inclusive education, contributing to digital economy and society and responding to global demand but shifting demographics. By active participation faculty play the most important role in such a system. Thus faculty need to be motivated and actively involved in curriculum integration.

Online education does not mean without laboratory experience to students. Skill development needs laboratories/workshops. There could be centers across the countries to support skill development activities. These centers could be institutes, colleges, universities. On the research front: it is all collaboration and not competition. Projects need to be

designed through collaboration so that laboratory/research facilities could be shared.

Nevertheless, Covid-19 provides an opportunity to rethink for transforming the conventional mode of education system. Educational institutes should utilize this opportunity to transform itself by designing and launching the Curriculum, collaborations with other institutions, skill development and faculty improvement programme, all should focus on internationalizing higher education.

Digital education appears to be a viable solution to fill in the void for classroom education for a period of three to four months while minimizing the chances of any infection to students until classes resume. This is the time to integrate the traditional mainstream education system to digital education in India. This will enable inclusive education by facilitating learning across diverse geographies in India. Moreover, it will provide an opportunity for educators to come up with customized learning solutions for every student.

A complete revolution in the way we learn today has been brought about by Technology. Each student gets in contact with a world-class education, which is not easy to impart by the traditional white chalk and blackboard method of teaching. This new learning is more interesting, personalized and enjoyable. A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. India is considered to be the biggest market for MOOCs in the world after the USA. Since the population of India is huge, massive open online course (MOOC) is said to open gateways for a lot of Indians in terms of bringing an educational revolution. Online distant learning programs give a great opportunity to avail high-quality learning with the help of internet connectivity.

#### E. Limitation of E-learning / Digital learning

Digital learning has many advantages in itself like digital learning has no physical boundaries, it has more learning engagement experience rather than the traditional learning, it is also cost-effective and students get to learn in the confines of their comfort zone. Besides this digital learning has its limitations and challenges, since face-to-face interaction is

usually perceived as the best form of communication as compared to the rather impersonalized nature of remote learning. Globally, online education has met with some success. In the case of India, we still have a long way to go before digital learning is seen as mainstream education, because students living in urban area have the facilities to opt for digital education, however, rural area students do not have the required infrastructure nor are financially strong to avail the resources required for digital education. Building of the digital education infrastructure in India presently appears to be difficult due to lack of budget. Further, even if the digital infrastructure is built, training has to be given to the teachers to use the digital system to provide authentic and proper, uninterrupted and seamless education to the students. Remote learning increasingly relies on the reliable power supply and ubiquitous Internet connectivity which might be a far-fetched thing for Tier 2 and Tier 3 cities in India.

Another challenge is that e-learning comes across as somewhat patchy and impersonal experience. Also, e-learning is likely to witness a high dropout rate due to the lack of atmosphere for studying. Students might tend to get distracted by gaming consoles, social media at home and might not feel a sense of community while taking online classes. Successful delivery of education is also in question because learning at the level of higher education and learning at the kindergarten/school level can be different. Digital education cannot be applied the same at every level of the education.

If we further up the light on the educational material, digital education will have a limited scope as compared with the written and handy material which is provided in an educational institute. Moreover, the authentication of the educational material is at stake. E-learning will always provide the students with different information in different ways. So, the authenticity of the educational material should be tested before these materials are circulated with the students. Creation of content, dissemination of content and evaluation of content should be done. Blended education has to come face to face and distance education should go hand in hand currently. Educational data circulated in online should be properly maintained. It is necessary because these

digital educational course classes will also lead to hacking systems and intruders coming in. The digital safety challenge will remain at large while imparting education.

The e-education will have impact on research and its procedures. During e-education, one cannot accumulate practical experience of real laboratory work like handling of apparatus and instruments etc. Hence, the degree holder of science by e-education will be useful only for teaching, online demonstrations, model creation, online material designing and modeling etc. Most colleges and universities will be deprived of good students and funds, which may result in abandoned physical campuses. My analysis is that the number of excellent research centers will be reduced, leading to reduced quality and quantity of formal research. However, the publications of traditional researchers will be less effective than the ideas given by a layman through online YouTube videos and Tik Tok platforms. Funding patterns for research as well as the priorities for future research areas will be changed (Kulshrestha, 2020).

Due to the outbreak of the pandemic, the work from home (WFH) culture is booming in India. As social distancing is prescribed as the best way to curb the spread of COVID 19, companies are faced with an unprecedented challenge of ensuring it is business as usual even if everyone is working remotely. Therefore, not only businessmen or start-ups in India have opted for an online platform like Zoom App to stay connected with their employees who are working from their homes but also the educational institutions have opted for different digital platforms to facilitate learning for their students. However, only educational institutions in urban areas can provide those facilities. Again the questions are raised for the learners in rural areas, the educational systems in rural areas and their growth.

- Some other impacts of Covid-19

The lockdown followed by Covid-19 pandemic showed positive impact of biodiversity and environment. The large scale anthropogenic activities that were the main cause of environmental destruction and unsustainable development (Verma, 2019) have been reduced by the lockdown. The reduced

anthropogenic activities have given an opportunity to flourish the biodiversity as the biodiversity has different values (Verma, 2016). There is a necessity of ecological balance for widespread biodiversity (Verma, 2017a). Anthropogenic activities and unsustainable agriculture have multiple effects (Verma, 2017b) and disturb the ecological balance (Verma, 2018a). The ecological balance is an indispensable need for human survival (Verma, 2018b). The climate change has huge impact on biodiversity (Prakash and Srivastava; 2019) and farmers' practices (Mandal and Singh; 2020). For sustainable development and widespread biodiversity (1) reduction in anthropogenic activities is must and (2) environmental ethics must be followed but sometimes it seems to rethink and redefine the environmental ethics in modern context (Verma, 2017c).

#### CONCLUSION

With so many different ways to define e-learning and the educational approaches that can be taken in these learning environments, many colleges and extra curriculum activity classes have started making use of the technology. Through applications such as Zoom, various colleges especially engineering and designing colleges of Pune have undertaken the task of educating students through video conferencing. Undeterred by the security concerns which such video conferencing applications may pose, these applications are widely used and have proved to be beneficial and with a lot of advantages. There is picture, sound clarity which makes imparting of knowledge and learning effective for both the instructor and the student.

But at the same time, there is a glaring disadvantage as exams have to be postponed. Examinations cannot be conducted online. It is not only just the question of imparting continuous and uninterrupted learning during the outbreak of Covid-19 pandemic but also the most important challenge for the instructor is to focus on the overall elements of a well-developed course. Developing a purposeful and well-defined online course, this supports the instructor and learner, means devoting the appropriate time and embedding the applicable course elements into the e-learning environment. Through the use of technology, we can, if not provide a strong alternative to the conventional

education system, mitigate and compensate for the impediments posed and inconvenience caused due to Covid-19 pandemic to the education system and learners by extension. Learning, as they say, is a continuous and ever-evolving process. The educational institutions in India, from schools to universities, can use this present adversity as a blessing in disguise and make digital education a major part of the learning process for all learners in the future.

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