

# COVID19: Blessings in Disguise for E-Learning in India

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## ABSTRACT

The World Health Organization has declared the outbreak of Covid-19 as a pandemic on March 11th, 2020, with additional announcement of social distancing which forced global shutdown of several sector, including educational institutions. In India, countrywide shut down of school and colleges were announced from March 16th, 2020. Due to the sudden closure of schools and colleges nearly 320 million students were affected. In this situation to continue the education system and for preventing the student drop out government recommended to replace the traditional teaching-learning with ICT enabled E-learning mode. COVID 19, act as a catalyst for the educational institutions, forced them to grow, choose and cope up with the various ICT enabled technologies for teaching learning activities. By the end of 2020, along with online learning some states tried to reopen educational institutions step by step with maintaining COVID 19 guideline but due to sudden appearance of COVID 19 second wave educational institutions were closed again and compelled to continue online learning mode instead of traditional physical learning. In this article we try to summarize the picture and importance of online learning during the crisis of COVID19 pandemic in India. We also discuss the various modes of E-learning and digital platforms used for that purpose along with opportunities and challenges regarding online learning and the possible solutions to make E-learning more universal with greater rate of acceptability.

**KEYWORDS:** COVID19, E-learning, Online education, ICT-enabled learning (key words)

## INTRODUCTION

Corona viruses infects human through zoonotic transmission. After Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) (1, 2) in the end of December 2019 a new infectious disease was appeared in the Wuhan city of China. The International Committee on Taxonomy of Viruses (ICTV) named it as severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) (3) and the disease named as COVID 19 (4) in February, 19, 2020 by World Health Organization (WHO), an acronym for corona virus disease 2019. WHO declared COVID 19 as pandemic on 11th March, 2020. The first case of this pandemic in India was reported on 30th January 2020 in Kerala and the affected was returning back from Wuhan, China. The first death due to corona virus in India on 12th March 2020 and the nation observed Janta Curfew for a day on 22nd March. Prime Minister of India announced the first phase lockdown for 21 days on 25th March, 2020. As there was no positive sign to slowdown the pandemic Indian Government has been extending the lockdown period in different phases and lockdown 5 was declared on 30th April which was effective from 1st to 30th June 2020(5)

According to UNESCO report, this pandemic had affected more than 90% of total world's student population during mid April 2020 which is now reduced to nearly 67% during June 2020. In India during all the phases of lockdown the educational institutions have never got any relaxation to start their education system. Initially, all the education stakeholders were quite confused how to cope up with this

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situation but through this lockdown period they understand to manage the sudden crisis of pandemic. The virtual education system becomes the most important and essential medium for teacher and student to continue their educational activities from home. The teachers assigned work to students and delivered their valuable lectures via video conferencing using different apps like Zoom, Google Meet, and Skype etc. For the effective communication by E-medium many educational institutions create whatsapp groups of teacher, students and parents. In India not every student is well equipped with digital gadgets and high speed internet thus they deprived by this new virtual education world. (6)

## Objective of the study

The objective of this study is to discuss the impact of different digital tools and learning platforms used for online learning and the opportunities and challenges of this learning mode. We also try to enlighten the possible solutions of the emerging difficulties of the online learning process.

## E-learning and its Necessity

Rapid advancement in the tech-world made online learning easier (7). Most of the terms used synonymously for E-learning like online learning, open learning, web-based learning, computer-mediated learning, blended learning, and m-learning. Online learning or E-learning can be defined as "learning experiences in both synchronous and

asynchronous platforms by different devices (e.g., PC, laptop, mobile) with internet access. In this platform, students can be independent to study and interact with teachers and other students" (8).

In the synchronous learning environment is designed such that, students can attend live lectures and perform real-time communication between learners and educators. In this mode, both learners and teachers can give their instant feedback, whereas asynchronous mode of learning-environment is not properly structured and performing live classes are not possible. Immediate feedback and instant response are not possible under such a platform (9).

Due to complete shutdown of educational sector as a result of COVID19 outbreak, the online teaching-learning is widely used as a prime mode of education. In the online learning mode students only need a good internet connection along with a laptop, PC or smartphone. E learning is beneficial because students can learn from home thus maintain the social distancing during this pandemic situation. It also offers a flexible class schedule and students can attain their class from anywhere just by using their devices with internet connection. Numerous global giant tech companies such as Google, Microsoft, and Zoom plays an important role for transforming the traditional teaching learning method into a virtual one (10).

#### **Digital Tools and Platforms Used for E-learning**

Educational institutions use different digital tools and virtual learning platforms during this COVID 19 pandemic. Electronic platforms such as email, Skype, Facebook, Telegram, Google are intensively used as a learning platform. In India School and colleges use several learning management software and online apps to continue the teaching-learning process during this pandemic situation. Moodle, Google classroom, Edmodo, Schoology, Canvas are some of the learning management system used in India. Video conferencing app Such as Google meet, Webex, Zoom are also used by institutions to deliver live lectures. Popular social media site like, Instagram, Facebook and Whatsapp are also used by educators and learners. During the pandemic and period of self-isolation, various companies like Coursera, Udemy, Edx, Byju's offer free online courses to students for satisfying their appetite for knowledge (10)

#### **Digital initiative for online learning: India Governments Plan and Policies**

Ministry of Human Resource and Development (MHRD), recently renamed as Ministry of Education under National Education Policy (NEP-2020), introduce several ICT initiative to meet the challenge of educating nation during this COVID19 crisis (11).

The 'Study Webs of Active Learning for Young Aspiring Minds' (SWAYAM) is initiated by Government of India that offers free online courses on almost all the disciplines. SWAYAM is designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality has aim to ensure the access the best teaching learning resources to all. This is done by using an indigenously architecture IT/ Cloud platform that facilitates hosting of all the courses, from 9th standard till Post-Graduation. These courses can be accessed by Anyone, Anywhere, Anytime. All the courses are interactive, prepared by more than 1000 reputed teachers in the country and are available free of cost.

SwayamPrabha is a group of 32 DTH channels to provide high quality educational resources throughout the country on 24x7 basis. . These channels developed to deliver E-education in a most cost effective & inclusive manner. The Department of Space has allotted two GSAT-15 transponders for the same. Hon'ble President of India has launched the Swayamprabha on 9th July, 2017. The subscribers of free DTH service would be able to view these educational channels without any additional investment the educational contents broadcasted in these channels are prepared by different MHRD agencies like CEC, IGNOU, IITs, NIOS and NCERT.

The National Digital Library of India (NDL) has been developed and maintained by IIT Kharagpur to develop the overall framework of a facility that can provide a single window access to learners for E-contents/resources. The vision is to build NDL as a National Knowledge Asset that should become the key driving force for education, research. NDL integrates the existing digitized and digital contents across educational and cultural institutions / bodies, publishers, etc. to provide a single window access to different groups of users ranging across the entire population.

e-Yantra is entrusted to IIT Bombay for effective education on embedded systems and Robotics for engineering students across the India. To make robotics as a part of the routine training curriculum, e-Yantra also helps colleges to setup Robotics labs/clubs. More than 275 colleges across India have benefited with this initiative. This initiative has been developed to create the embedded system engineers with advanced knowledge and practical outlook which help provide practical solutions to some of the real world problems through use of Robotics & Autonomous Systems.

e-PG Pathshala is an initiative of MHRD launched on November 7, 2015 and entrusted to UGC that provide educational resources for teacher educators, teachers, research scholars, students and parents through an online learning platform. e-PG Pathshala contain curriculum-based, interactive e-content of nearly 23,000 modules (e-text and video) in 70 Post Graduate disciplines of social sciences, arts, fine arts and humanities, natural & mathematical sciences, have been developed by the subject experts working in Indian universities and other R & D institutes across the country

The MHRD has launched Online Annual Refresher Programme in Teaching (ARPIT) on 13th November, 2018, an initiative of online professional development of higher education faculty through using the SWAYAM. For implementing ARPIT, 75 discipline specific National Resource Centres (NRCs). NRCs are responsible to develop online training material aimed on latest developments in the discipline, new & emerging trends, pedagogical improvements and methodologies for transacting revised curriculum.

Virtual labs are labs in various disciplines of Science and Engineering. Students perform virtual lab experiments at a place and time of their choice to strengthening their theoretical concept. These Virtual Labs can be accessed by the students of undergraduate level, postgraduate level as well as by the research scholars.

FOSSEE (Free/Libre and Open Source Software in Education) Project encouraged the use of FLOSS (Free/Libre

and Open Source Software) tools for improving the education quality in our country. This programme aimed to reduce the dependency on proprietary software in educational institutions. It is being implemented by IIT Bombay. FOSSEE promotes the use of the state of the art FLOSS in teaching and research. Some of these tools are Scilab, Python, R, DWSIM, Open Modelica and Open FOAM. It also promotes open source hardware, such as Arduino.

The DIKSHA portal contains online learning content including video lessons, worksheets, textbooks and assessments for both students and teachers. More than 250 teachers create these high standard learning content under the guidance of its national board of education (CBSE) and NCERT (12, 13)

### Advantages of E- learning

Online learning has several advantages such as, flexibility of class schedule, interactive learning platform and self-pacing-course (14). COVID 19 pushed Universities, colleges and other educational institutions to digitalize their teaching-learning activities. In this new-normal era, blended learning is now also become a standard practice, which help educators to be more acclimatized with new age technology. Teachers also get an opportunity to improve their teaching-learning materials. E-learning bring an opportunity to student to save the class lectures for future. They can watch or listen recorded version of any previous lecture whenever needed. E-learning enables educators to get a higher degree of coverage to communicate the message in a consistent way for their target audience. This ensures that all learners receive the same type of training with this learning mode. E-learning is cost effective as compared to traditional forms of learning. The reason for this price reduction is because learning through this mode happens quickly and easily. A lot of training time is reduced with respect to trainers, travel, course materials, and accommodation. As E-learning is a paperless way of learning, it protects the environment to a lot of extent. As per a study done on E-learning courses, it has been found that distance-based learning programs consumed around 90% less power and generated 85% less amount of CO2 emissions as compared to traditional campus-based educational courses. (15)

### Challenges and possible Solutions

Though numerous technologies are available for E-learning but sometime use of technology also create a number of difficulties ranges from Network issues, several types of error in the device, problems with audiovisuals during live lectures and so on. Being at home, online learning create laziness among students to attain the class and also self-discipline. In Online learning platforms, sometimes it is difficult to interact with students and thus learning process can't reach to its full potential. In online teaching-learning process, all contents are theoretical and it is impossible to teach practical through this mode. Students belonging from low socio-economic family may often suffer as they lack high speed internet and costly devices to attain the online classes (13, 16). A lot of challenges and issues are associated with online learning, but we cannot ignore the need of the hour under such critical period. To smoothen the online learning system technical glitches can be overcome by using prerecorded video lectures, testing the learning content before casting and to keep alternative plans ready so that teaching-learning process cannot be hampered. Educators should take necessary steps to humanize the learning process as far as possible. Personal attention should be given

towards every students for helping them to adapt with this new age learning system. The learning content should be advanced and well-designed to make students hone their skill. Online lectures and learning content must be creative, interactive and student-centered. Educational institutions must focus not only to find and use new technology but also to redesigned and reimagining education system to help students and academicians who are seeking digital literacy. Online learning is not affordable for all especially to students belong from low income family, so government or institutions should take necessary steps to eliminate this barrier. New policy should be launched by the Government provide free internet and free digital gadgets to all learners in order to encourage online learning (16)

### Conclusion

COVID19 accelerate the digitalization of education system. During this time of pandemic, online education is the best and safest way of learning. Several countries including India facing initial difficulties to handle this sudden shifting of traditional educational system towards online one but to survive in this crisis Govt. of India take drastic steps to make plan and policies to initiate online learning platforms to continue the educational activities. Natural disasters act as a motivational stimulant to adopt highly innovative communication technology and E-learning tools (17). For effective E-learning we need to focus on the use of technology more efficiently with minimum procurement and maintenance costs but can effectively facilitate educational processes. Any E-learning tools or technology need to be under scanner to analyze its pros and cons before its official adoption and use. Govt. of India need to conduct plenty of research to develop more efficient online learning systems and also strategies should be made to ensure that all children's get the access to E learning and The practice of E-learning must be continued in this contagion condition due to second wave of COVID19, to prevent the transmission of the disease.

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