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Article

Post Corona Era: Technical Education in Field of Secondary Education

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Abstract

This paper shows the present Indian scenario about online education status and India preparedness for such infrastructural changes along which educational system alteration in the long term, at the eve of COVID 19 outbreak. Various Indian educational portal and programmes have been in the tunnel for rendering quality literacy to children of age 6-18 without hampering the traditional education quality. It also emphasis on the challenges and how to overcome the major glitches to attain better quality and safer environment of schooling for secondary and senior secondary students.

Introduction

Contemporary times, the earth has been facing several natural catastrophes within a row, COVID 19 accounts the maximum damages when socioeconomic, financial, economical, political psychological and other aspects are taken into deliberation. This pandemic has left the world with maximum economic damages and considerable death tolls. According to world health organization the confirmed

cases having more than six million of COVID-19 across the world and have lost more than 370,000 people to the virus.

As far education at secondary and higher secondary are concerned, 1.26 billion Children worldwide (estimated by the United Nations Educational, Scientific and Cultural Organization (UNESCO)) affected by school closures due to the pandemic. This is 72% of the world's student population. India comprises over 320 million of these learners. There is a drastic shift from the conventional learning system towards online learning. With this sudden shift away from the classroom in many parts of the globe, some are wondering whether the adoption of online learning will continue to endure post-pandemic, and how such a spell would impact the worldwide education market.

The World Economic Forum publishes a wave in the use of language apps, virtual tutoring, video conferencing tools, and online learning software in the last three months. India, too, is testifying an e-learning boom. Classes on Zoom, WhatsApp and Skype are converting the norm for students, parents and teachers. Yet, this abrupt transition to online hardly compensates for the absence of the classroom experience.

These prompt the ardent discussion of the devastating impact of disasters on elements of economic and social development for present and future generations, mostly in the frame of education. The present pandemic has a major effect on the pedagogy system where the physical classroom programs are suspended and shifted more towards online classes. In India, these changes have a smoother shift when private universities are concerned while public schools and colleges are suffering and still are in the laggard phase.

This has turned this into a debatable subject where the future of education, evaluation and examination can have a major shift towards online demeanour or not.

2 types of classes are conducted in these sessions, where one is pre-recorded classes and the other is online classes, where doubt clearing sessions are taken into account.

The scenario of online learning in secondary and higher secondary schooling.

The Government of India is intent to use technological support in helping its purpose to make Higher Education accessible to all meritorious students. In this respect, it has launched its National Mission on Education through Information and Communication Technology (NMEICT) in 2009 to accommodate the opportunity for all the teachers and specialists in the country to pool their collective wisdom for the benefit of every Indian learner and, thereby, reducing the digital divide. Under this Mission, a proper equilibrium between content generations, research in crucial areas relating to imparting of education and connectivity for uniting our knowledge with the progressions in other countries is to be attempted. For this, what is needed is a critical mass of experts in every field working in a networked manner with dedication. Although disjointed efforts have been going on in this area by various institutions/organizations and separate success stories are also available, a holistic approach is the need of the hour. This Mission seeks to support such initiatives and build upon the synergies between various efforts by adopting a holistic approach. Emphasis on ICT is a compelling need as it acts as a multiplier for capacity building efforts of educational institutions without jeopardizing the quality. The Mission is also essential to nurture a high growth rate of our economy through capacity building and knowledge empowerment of the people and for promoting new, upcoming multi-disciplinary fields of knowledge. (MHRD, 2016)

Khan (1997) has defined online learning as the delivery of instruction to a remote audience using the web as an intermediary.

Elaine Allen, Jeff Seaman (2011) have defined Online courses as those in which minimum 80 per cent of the course content is delivered online and Face-to-face instruction are those courses in which less than 30 per cent of the content is dispensed online.

According to Stack, Steven Dr. (2015), online education has proliferated in the last decade. His research has not found any major difference in the scores of the students taking online course and face to face classes.

MHRD initiated several projects to assist students, scholars, teachers and enduring learners in their studies. These initiatives cover the educational requirements of learners ranging from school to Post Graduate. The introduction of those projects as follows.

SWAYAM (<https://swayam.gov.in/>) provides Massive Open Online Courses with 140 universities approved credit transfer feature. Students enrolled in Jan-20 & total are 26 Lakhs & 1.57 Cr respectably. Total 1900+ courses are operating covering school & higher education.

SWAYAM is a programme launched by the Government of India and sketched to achieve the three cardinal principles of Education Policy viz., access, equity and quality. This effort aspires to take the best teaching-learning resources to all, including the most disadvantaged. SWAYAM seeks to link the digital divide for students who have heretofore remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

This is done through a platform that facilitates hosting of all the courses, taught in classrooms from Class 9 till post-graduation to be accessed by anyone, anywhere at any time. All the courses are interactive, provided by the best teachers in the country and are available, free of cost to any learner. More than 1,000 specially chosen faculty and teachers from across the country have participated in preparing these courses.

The courses hosted on SWAYAM are in 4 quadrants – (1) video lecture, (2) specially programmed reading material that can be downloaded/printed (3) self-assessment tests through tests and online quizzes and (4) an online discussion platform for clearing the doubts. Steps have been taken to enrich the learning experience by using audio-video and multi-media and state of the art pedagogy/technology.

The SWAYAM PRABHA is an assortment of 32 DTH channels devoted to telecasting of high-quality educational programmes on a 24X7 basis using the GSAT-15 satellite. Every day, there will be new content for at least (4) hours which would be repeated 5 more times in a day, allowing the students to choose the time of their preference. The channels are uplinked from BISAG, Gandhinagar. The contents are provided by NPTEL, IITs, UGC, CEC, IGNOU, NCERT and NIOS. The INFLIBNET Centre manages the web portal.

The DTH Channels shall cover the following:

Higher Education: Curriculum-based course contents at a post-graduate and under-graduate level incorporating diverse disciplines such as arts, science, commerce, performing arts, social sciences and humanities, engineering, agriculture, technology, law, medicine, etc. All courses would be certification-ready

in their detailed offering through SWAYAM, the platform being acquired for offering MOOCs courses.

School education (9-12 levels): modules for teacher's training as well as teaching and learning aids for children of India to help them understand the subjects better and also help them in planning for competitive examinations for admittances to professional degree programmes.

Curriculum-based courses can meet the demands of life-long learners of Indian citizens in India and abroad and Aid students (class 11th & 12th) prepare for competitive exams.

National Digital Library (NDL) (<https://ndl.iitkgp.ac.in/>) is a depository of e-content on multiple disciplines from primary to PG levels. It has 4.3 crores content (Text / Audio / Video / Simulation /Graphics), harvested from 250 sources; in 300+ languages. NDL has 55 Lakhs + registered users.

IIT Bombay envisages the 'e-Yantra' platform to harness the intellectual talent of young India to create utility based robotic applications for usage across variety of applications such as agriculture, manufacturing, defence, home, city maintenance and services industries. e-Yantra (<https://www.e-yantra.org/>) provides hands-on expertise on installed systems. It has about 380 Lab and made 2300+ colleges benefited.

Gyan Darshan (<http://www.ignouonline.ac.in/gyandarshan/>) is a web-based TV channel devoted to educational and developmental needs for Open and Distance Learner. Gyan Vani (105.6 FM Radio) & Gyandhara (web radio) (<http://ignouonline.ac.in/Gyandhara/>) Gyan Dhara is an internet audio counselling service where students can listen to the live discussions by the teachers and experts on the topic of the day and communicate with them through telephone.

DIKSHA is a unique initiative which leverages existing highly scalable and flexible digital infrastructures while keeping teachers at the centre. It is built considering the whole teacher's life cycle - from the time student teachers enrol in Teacher Education Institutes (TEIs) to after they retire as teachers.

In India, many teachers are building & using innovative tech-based solutions in their classrooms. Some state governments have also initiated programs to support

their educators digitally. This inspired MHRD and NCTE to harmonise these efforts at a national level and build DIKSHA. States, government bodies and even private organizations, can combine DIKSHA into their respective teacher initiatives based on their goals, needs and capabilities.

The digital India campaign has promoted extensive use of ICTs in the teaching-learning process. The ePathshala, a joint initiative of Ministry of Human Resource Development (MHRD), Govt. of India and National Council of Educational Research and Training (NCERT) has been formed for showcasing and disseminating all educational e-resources including textbooks, audio, video, periodicals, and a variety of other print and non-print materials for Students, Teachers, Parents, researchers and educators. It provides access to digital textbooks for all classes, graded learning materials and enables participation in exhibitions, contests, festivals, workshops, etc.

Challenges in Online education

There are a lot of challenges faced by people in online education in India. Some of these challenges which need to be overcome are:

1. Insufficient digital infrastructure

Although the Government of India is taking the lead to develop digital infrastructure a lot needs to be prepared in this direction. High-speed internet and stable power supply are the most significant problems. India stands 89th worldwide on internet activity and stability. According to the report of the World Economic Forum, only 15 per cent of the families have access to the Internet, and mobile broadband persists accessible to quite few i.e. only 5.5 subscriptions for every 100 people. Further, currently reach of broadband is just about 600 corridors, largely in and about the top 50 to 100 Indian cities, forsaking rural areas with inadequate connectivity. 5G networks technology is the requirement of today's which will increase the speed of downloading the data.

2. Insufficient Social interaction

Since online education can be reached at home or any other convenient place, there is very ineffectual direct interaction with the teacher and other people doing the course. According to Dharendra Kumar (2010), particularly those courses which are self-paced, there is very less discussion among the peers. Most of the

conference takes place through email, chat room or discussion groups, lacking a campus atmosphere to improve social interaction. So you are not able to develop any social bonds which do help in the career growth.

3. Questionable credibility of degrees

Although the industry has started acknowledging online degrees, there are still a lot of fraudulent, swindling and non-accredited degrees being administered online. The number of scam operators is rising who are offering fake certificated which does not have any credentials. These scams not only losses the credibility of the online certificates but also the faith of prospective employer in online programs.

4. Motivation

Some students need the push to get to the class. In the case of self-paced online programmes, the student may procrastinate. The dropout rate in online education is very high. Self-motivation and discipline are required to complete the assignments and upload them timely. If you have difficulty working independently, staying organized and meeting deadlines, you might struggle in an online program.

5. Language of the Course

India is a multi-linguistic country, and a vast majority of the population befalls from rural regions. The content offered by most of the online courses is in English. Hence, those students who are not able to speak English struggle with the availability of language content. Hence, it is the duty of computer experts, educators, administrators, language content originators, and content disseminators, to sit together and give a viable framework and standard solution to the learners knowing only Indian languages.

Opportunities in Online Education

Revolutionized technology is offering many opportunities for all stakeholders in the online education sector which includes entrepreneurs, education providers and learners. Some of the factors offering different opportunities in this domain include:

1. Mobile Learning

According to a report in Stastia (2018), in the year 2017, there were 320.57 million people who accessed the internet through their mobile phone. This figure is forecasted to rise to 462.26 million by the year 2021. The surge in users is credited

to the availability of 4G internet and smart phones at a very low price. Going ahead, IAMAI assumes that the National Telecom Policy (NTP) 2018, which is focusing on new technologies like 5G, will support better quality data services at added affordable prices and help address the digital divides that will promote internet penetration in the rural areas through mobile internet. According to a report by Zenith, mobile devices will value for 73 per cent of time spent utilising the internet in 2018. So the vast majority of students in future will have access to e-learning through mobile phones.

2. Investor's Interest

A large number of entrepreneurs are venturing into online education as this is expected to see an uptrend in the next 5 years. Acknowledgements to the Digital India campaign, the cultural importance given to education and falling mobile data prices. Khan Academy is a nonprofit organization which holds financial support from philanthropic organizations like The Bill and Melinda Gates Foundation, Google and Netflix founder Reed Hastings. Online learning platform Unacademy also raised \$11.52 million of funding headed by Sequoia India and SAIF Partners; and Eruditus Executive Education, a provider of supervisory education programmes, had raised \$8 million funding from Bertelsmann India Investments. So, the online education sector will remain to spark more interest among entrepreneurs, investors and attract more funding. In response to significant demand, many online learning platforms are offering free access to their services, including platforms like BYJU'S, a Bangalore-based educational technology and online tutoring firm founded in 2011, which is now the world's most highly valued tech company. BYJU's has seen a 200% increase in the number of new students using its product, according to Mrinal Mohit, the company's Chief Operating Officer.

3. Blended Model

There will be the convergence of offline education and online education in future. This theory of blended learning combines online digital media with traditional classroom methods. It requires the physical presence of both teacher and student, but the student has less control over time, place, path, or pace. This model will take advantage of both face-to-face classroom practices coupled with computer-mediated activities. In future, there will be virtual classrooms where face to face offline pedagogy will be aided by digital courses on practical experience and soft

skills. India originally had a tradition of gurukul system where taught were performing teacher for the next generation of education seekers.

4. New Courses

Today the most popular courses in online education are related to IT which includes subjects like big data, cloud computing, and digital marketing. But in future demand for different types of courses in unexpected subjects such as culinary management, photography, personality development, forensic science, cyber law, etc. will improve. As on February 2020, 254,897 training centres are enrolled in India and around 2 crore candidates have completed training under the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA). this will accompany various unconventional courses to come under the single umbrella of digital education.

Conclusion

The online education is the future of the Indian education system, as the Indian government has more emphasis on ongoing digital with the passing time. Minimizing the classroom interactions, and increasing self indulge in education as well as various learning programmes that are at quick disposal with online portal both by government and private service providers have given an initial thrust to the unconventional learning system. This can only be achieved by more internet penetration to a rural area as well as small cities, more acquaintance and public equipped with technology-savvy attitude. Though the Indian population has the literacy rate of 70 per cent still the mobile penetration is much smaller in small cities, It was estimated that by 2023, there would be over 650 million internet users the country. where India is the fastest developing market for internet users.

Children in the schools have to be alternative to maintain distance and reduce risk of COVID infections. Along with such awareness, most of the theoretical matter must be taught and conducted online and practical portion of education as well curricular activities can be attended alternatively to children. Thus, ultimately in forthcoming years, there can be seen a remarkable modification in the whole education system which will be more of virtual interaction rather than physical interaction. this virtual educational interaction will extend to the various sphere, languages, and manifold cooperation of government and private are expected to patch up for reducing this digital divide.

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