

E-Learning—The Indian Way: Design, Implications, Challenges, and Remedies

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Abstract

The Indian higher education system and the entire realm of academics were radically altered with the global pandemic and its ensuing changes witnessed in the year 2020. Everything has transformed from physical to online. The idea of the classroom as a dominant learning space was altered. A new definition for the word 'space' emerged. The closing down of various educational institutions like schools, colleges, and universities transformed the e-learning system into a reality. E-learning has firmly established itself in India, offering vast opportunities for students. It plays a crucial role not only in educating students but also in supporting the professional development of employees. This mode of learning is conducted electronically, primarily via the internet, and typically involves the use of personal or institutional devices such as computers, tablets, and smartphones. E-learning encompasses various activities, including training, real-time information delivery, and expert guidance. Whether instruction occurs inside, or outside traditional classrooms, digital devices and Internet connectivity are integral to the process. E-learning can be described as a network-driven method of transferring skills and knowledge, enabling education to reach a broad audience simultaneously or at different times.

Keywords: Online education, platform, resources, tools, e-learning, methods, learning process

INTRODUCTION

E-learning is a new paradigm which is being widely used by educators and learners in the higher education realm, schools, and businesses. Various higher educational institutions have adapted this new system called e-learning. E-learning has become the need and it is deemed to be the future of higher education system in India. Learners of the 21st century demand personalized, self-paced, and relevant yet customized content. It fulfills the students' demands and they can gain real-world knowledge yet promising their own space. Most of the students today prefer e-learning courses at different levels and disciplines. Students are no longer obligated to visit schools or colleges for the purpose of learning [1].

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Factors like learning convenience, ease of access, affordability, effectiveness, and the uniqueness of content have offered e-learning enough scope to flourish in the Indian higher education system. From mathematics to coding, endless options are available for students who are willing to hone their skills in subjects of their choice and obtain degrees from recognized and preferred universities. E-learning has emerged as a faster and dynamic education trend in the 21st century, paving way for the students to get a degree and improve their careers from the comfort of their homes [2–5].

NATIONAL RESPONSE TO ACADEMICS DURING PANDEMIC

The dreadfulness of COVID-19 has not stopped the teaching-learning process. Fortunately, the internet world has paved way for online or distance learning. Innovative pedagogy, learning resources, interactive modules, user-friendly approaches, iTechnoVirtual learning skills are all set to make online education to make e-learning productive and effective. India has got a long history in online teaching with broadcasting space provided by Doordarshan and All India Radio to telecast recorded educational programmes to higher educational institutions and school-going children [6, 7].

The Ministry of Human Resources and Development (MHRD), with its wings of Universities Grants Commission (UGC), All India Council for Technical Education (AICTE), and Indira Gandhi National Open University (IGNOU), has contributed significantly for the development and usage of information and communications technology (ICT) enabled tools and schemes like SWAYAM, MOOCs (Massive Open Online Courses), National Digital Library, Shodhganga, Vidwan, e-content courseware, SWAYAMPRAKHA, CEC-UGC, YouTube educational channels, CBSE (Central Board of Secondary Education) text books, NPTEL (National Programme on Technology Enhanced Learning), e-books, and virtual labs [8–10].

It can be attested in many ways that the quality of education was definitely on the rise in institutions that utilized the opportunity to conduct online classes effectively. This includes the opportunity to listen to specialized instructors who remained in their locations and delivered talks to students who would otherwise have had no opportunity to listen to such lectures.

Most of the Western countries have adopted digital e-learning as part of their routine educational system. In India, the ‘chalk and talk’ method of teaching is deep rooted in the minds of stakeholders. However, with the pandemic in place, there is a shift in the realm from the physical to virtual [11].

STATUTORY BODY APPROACH TO E-LEARNING

UGC, the accrediting body has been liberal, generous, and accommodative during the pandemic period to guide institutions in managing educational needs. In June 2022, the UGC approved 70 colleges across the country to offer degrees through online which was never perceived practical in India before the pandemic. UGC is of the view that the students can have 30% of physical classes and the rest 70% in online mode. This further helps them to take up a job for financial sustenance. Looking at the way it goes, Indian educational sector is not far from offering majority of online courses in the future [12].

ONLINE CLASSES AND ONLINE CLASSROOMS

Post-pandemic online education need not be same as that of the pandemic times. There exist differences between online classes and online classrooms. The second category is physical, typically involves the classroom setup, but without teachers [13]. The teacher teaches from a remote location. But the classroom is equipped with an intelligent camera that revolves 360 degrees and gives a typical classroom experience to teachers although being far from class. This enables the teacher to observe every student in the classroom just as he observes when he is physically available in the class. Moreover, the entire classroom proceedings are video-recorded [14].

CLASSROOM REQUIREMENTS FOR ONLINE EDUCATION

Online classes require lecture plan for every session. Due to this, students will come to know about their class itinerary and details of the lessons that will be covered during the session. Teachers are oriented on using technology and scheduling of classes, so that the session flows without any delay or technological hitches. This will help and enable the teachers to monitor and ensure ethics and discipline into the learning sessions to maintain academic honesty. Teachers also need to be familiar with the tools to conduct online quizzes, tests and evaluate assignments through online. It is also important for the teachers to know how technology can be integrated for various courses based on the requirements when

it comes to different subjects such as mathematics, arts, sports and sciences. Online teaching involves either students or teachers operating from remote locations or both operating from remote locations [15]. It is true that teaching certain subjects online can be extremely tedious and labor-intensive, especially for complex subjects like statistics, chemistry, and physics.

Teachers can develop activities to keep the students fully engaged with the lesson without wasting time. Teachers are molded to create quality lessons which soon become a global learning material. Superior quality input devices can be used to create and deliver presentations. This will catch student's attention and make the learning process more effective [16].

KEY ASPECTS AND EMPHASIS OF E-LEARNING

India has a long history of textual knowledge. The idea of being a part of online courses was never thought of. Things have changed much due to COVID-induced lockdown. Obviously, e-learning has offered greater flexibility than other modes of learning. Students have flexibility to study at any time of the day at their own pace. With such option, students can easily attain their learning goals [17]. E-learning promotes self-learning and re-learning. The video-content is up-to-date and the same content can be pre-recorded and accessed anywhere at any time. The phenomenal exposure it offers is through its engaging content and experienced educators enhances better learning.

Face-to-face teaching offers a dynamic bonding with faculty and periodic motivation from teachers which are obviously missing in e-learning. Online learning can sometimes be non-committal and distractive. Courses that require labs and workshops could not be conducted online. Although there are several advantages of e-learning such as flexibility of learning, value for time and money, and cost-effective educational pursuit, it comes with its own set of pressures as well. Moreover, not all online degrees are accredited and approved by the Distance Education Council (DEC) of India [18].

Availability of content over internet offers a sigh of relief for the learners. The content can be easily accessed by anyone. They can contact the educators and take examinations for unlimited number of times if internet connection is provided. In addition to this, an e-content has the flexibility of getting updated with current trends making it a textbook that can be revised every time. One of the changes that online class brought in was cost-effective options, the affordability aspect that enhances the profitability of e-learning platforms [19].

Issues in Connectivity

Power, range, and network are the major problems of this domain. Trouble-free network facility can be ensured in each institution with 2 Gbps bandwidth that is proportionate to the strength of the campus. Campuses that function with digital efficiency can act as nodal centers. All extended infrastructure can be verified periodically either by multiple bodies, through e-mode and to some extent through physical verifications. The government can create a cloud space anticipating the usage in the next 10 years.

Privatization of E-Learning

Private players with service motives can be encouraged to open virtual universities. Identifying such institutions can be based on institutional reputability and global reach. Virtual institutions can be encouraged and be considered for national level ranking on quality outcomes on par with the institutions that run regular mode of teaching. Industry-supported online courses will attract more students to join courses. The institutions need to develop software tools as open source for laboratory- and skill-based training via virtual mode [20].

Human Resources for E-Learning

The institutes of national importance are obligated to run courses on e-learning, which will be a base course for eligibility for an aspiring teacher. This amendment can suitably reflect in all educational boards across the country.

The existing teachers in schools and faculty in colleges, institutions and universities irrespective of cadres can be subjected to compulsorily e-learning course through workshops, faculty development programs (FDPs), which will eventually reflect in career advancement as well.

To evolve database sources of foreign and national faculty expertise similar to e-VIDWAN to train, guide and update members of faculty. The statutory bodies need to amend the regulation in the respective domains [21].

Evaluation of the e-learning System

All universities and higher education institutes (HEIs) should practice evaluation system on e-learning outcomes and performances. Prominent competitive exams like Olympiads, NEET, TOEFL, IELTS, GRE and other foreign language tests are conducted online. Hence the present evaluation of students' performance outcomes can also be done through the online mode. The facilitating statutory bodies must evolve the online-based evaluation using various tools to minimize direct interactions.

VISION ON E-LEARNING

The fundamental objective of e-learning is to facilitate all stakeholders of education with digital teaching-learning process, transforming the knowledge, skills, technology to next generation using the innovative tools for holistic development in spite of maintaining social distance.

Innovative Ideas for E-Learning in India

The government should evolve policies that are mandatory for all stakeholders to follow e-learning education system. The proposed system should be a scalable process involving various stages of implementation on delivery modes, resources, beneficiaries. Suitable online e-learning tools for education system starting from primary, secondary, and higher education levels should be evolved.

This online education has become a normal in almost all avenues of teaching-learning process. Google has introduced several innovative tools making us to understand many platforms such as Socrative, Evernote, Edu creations, Edmodo, Kahoot, and Slack that have been already developed, readily available, utilized, currently practiced in Western universities.

This being the current scenario on global platform, India should develop innovative pedagogy methodology, learning resources, interactive modules, user-friendly approaches and IT Techno virtual learning skills to make e-learning, the more possible.

Developing E-Learning Platform

A world class suitable platform for e-learning should be developed that can be easily adaptable in urban and rural sectors. It needs to develop a platform that can easily adapt to the next generation changes and remain innovative and instruction based and also to develop user-friendly tools which will be most interactive with the teacher-student network. It also needs to be cautious and create firewalls to avoid hacking, diverting attention of the groups as it happens in the Zoom room.

Resources for Self-Learning

Our present self-learning resources such as SWAYAMPRAKASH, National Digital Library, e-ShodhSindhu, and UGC's Youtube channels are good knowledge resources, but the curriculum and the syllabus require drastic changes in incorporating these e- resources such that each student should be evaluated on the output of self-learning. These innovations on evaluation of self-learning without guidance from teachers will enhance the thinking skills. The outcome of self-learning can be clarified based on a term paper, research paper, interactive questions on the observation of videos, assignments, creative thinking, testing of skills. Besides, an integrated platform is to be developed with teaching efficiency, effective application-based learning content that can be uploaded in digital media platform which will have free access to both faculty and students.

Teaching and Learning Process

The usage of ICT tools like PPT, live videos-based teachings are current scenes. Webinars and online classes were rarely used, but the stage has come to make e-learning a normal medium.

Hence an interactive mode covering all aspects of firewall needs to be uniformly designed and developed by any national coordinating center preferably an institution of national importance. This nodal center is to monitor the regular performance and offer periodic academic events, workshops, webinars, to all academic fraternity across the country.

To enhance the curriculum, the syllabus of the school education, higher education should become innovative and accommodate e-learning modes of system. This mode of education can be included as one of the modules in the AICTE-NIIT National Institute for Teacher Training.

To create a mandate that SWAYAM, MOOC courses are a must for any student to earn degree and the curricula to be updated with separate mandatory credits. To create an interactive teaching-learning mode considering the design, running problematic equations and including all aspects reflected in the board with enhanced visibility. To this end, the statutory councils should strive for suitable updates in their respective regulations.

One of the best ways to bring interest into learning is to introduce tools and strategies that are used in the gaming industry into online teaching, students will surely find online learning interesting and less boring. Currently, the online teaching-learning process is live in many educational institutions at all levels with free versions of Webex, MS Teams and Big blue button.

Thrust Areas in Forming a Unitary Body

- a. A central monitoring and facilitating body on e- learning to be created in the existing wings of MHRD.
- b. Developing a coordinated resource platform with quality aspects considering the data sciences and data analytics related to e-learning.
- c. Constitute a governing body with e-learning experts, representatives of statutory councils, ICT experts, and designers to formulate strategies on need- based digital developments to develop courseware on cutting-edge technologies
- d. Constitute a work force comprising of nodal centers, representatives from institutions-faculty, and student representatives for creating prototype innovation model in all aspects of teaching-learning process and frequent evaluation of the performance of outcomes to be done.

Ensuring Global Standards in Online Education

Teachers must understand and capable to apply various aspects of the technology required for online teaching. The online teaching may be ineffective for a teacher to justify and gauge the learning levels of students. To address these issues, allocation of sufficient budget for the creation of infrastructure, manpower, equipment of global standards should be ensured and the developments to be monitored across the country.

Individual attention to every student will be difficult to provide, but technology can help the students to achieve their objectives. Teachers should develop teaching materials in digital format apart from conducting online classes. This has been an issue since there are several teachers with lesser skills in recent advanced technology whose productive skills should be honed.

CONCLUSION

One of the resolute challenges of India against COVID-19 was its ability to continue every level of educational services without disruption. In fact, COVID-19 has revolutionized the Indian system of

teaching-learning practices. Two-way communication in teaching is a recent trend in India. This was made possible with apps, software, digital tools, and learner response systems that facilitated the whole prospect of learning.

It is time for policy makers, faculty, and students to use ICT tools in day-to-day affairs. The government and policy makers are taking all possible steps to enhance the usage of e-learning education available in the present form despite all efforts, when compared to the global scenario on e-learning, the country needs innovations in this domain, evolve suitable changes and make e-learning mandatory in all levels of educations.

Online teaching system will be the future mode of teaching methodology in educational institutions in India. Users of technology should ensure that students do not become passive listeners, but become active participants in every learning session. While post-pandemic academia has found a paradigm shift in every possible domain, educational Institutions should digitize everything from admissions to placements.

It is time to ensure each faculty, student, and other stakeholders are equipped with minimum requirement to participate in virtual classrooms. The biggest challenge before us is the conduct of practical classrooms, internships, and projects. Once these gaps are addressed and best results evolved, online education will be viewed on par with regular mode of education.

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