

Empowering Education: Insights Into Implementing Digital Tools

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Abstract

COVID-19 is not only a worldwide public health emergency but has also become an international pandemic. It is a communicable disease, so policies imposed to put a break on it include social distancing, self-isolating at homes, closing schools, institutions and public facilities and even lockdown of the whole nation. One critical sector that has confronted dilemma is education sector. This situation challenged the education system across the world as there was an overnight shift of normal classrooms into e-classrooms. Many governments have ordered institutions to cease face-to-face instruction for most of their students, requiring them to switch, almost overnight, to online teaching and virtual education. This article throws light on the various existing and new initiatives undertaken by the government during pandemic and natural disasters and discusses the challenges associated with online learning.

Keywords: Online teaching, COVID-19, Education sector, Digital tools

INTRODUCTION:

Schools, Colleges, and Universities in India are currently based only on traditional methods of learning of face-to-face lectures in a classroom. This pandemic has made the world realize that the existing system of doing work is not enough and sufficient. Education sector has tried to invent various online digital tools which may help in redefining and restructuring the education sector. Although some of the academic units have also started blended learning, still a lot of them are stuck with old procedures. Various universities and colleges are making efforts to teach their students through online tools, thus replacing the classic learning form at

universities as an immediate response to the COVID-19 virus infection.

Digital/Online learning is education that takes place over the Internet. In distance education educators and students are separated with physical distance. Education is imparted using technology (e.g., audio, video, data, and written text). It is a form of education in which students, teachers and teaching materials in different geographies are brought together through communication technology using video, audio, active learning, simulations, and electronic advances and the students have the convenience of course materials being delivered to his/her home or office (Roffe, 2004).

Traditionally education was centred on sources such as schools, teachers and print media. Prior to the digital era, information was not accessible by the majority of people. Advances in digital technology have opened up many avenues of learning. Technology has made information accessible/transmittable from anywhere and to all groups of people. Today's version of distance education is online education, which uses computers and Internet as the delivery mechanism with at least 80% of the course content delivered online (Allen & Seaman, 2011; Shelton & Saltsman, 2005). Online education is no longer a trend, but mainstream.

The main aim of this research paper is to study about the Digital education tools. Digital media offers interactive audio-visual that allows rendering information to students via animation software and PowerPoint presentation in an interactive manner. Digital technologies play a vital role in education with the help of e-books where we do not need to visit library and borrow books. So many digital teaching devices are available to educators. It is the educators' responsibility to compete with the quality of video games and visual media in order to hook students into great learning. Because of the development of new technologies such as smart phones, highly mobile tablets, notebooks, the educators' must ready to use the new medium in their teaching process. The educators must have the knowledge about the new digital medium as well as its functionality. Information and communication technologies allow learning anywhere, anytime, not just in one particular classroom for three hours a day. Now many universities are offering online courses to reach the unreached.

LITERATURE REVIEW

Jadhav, Vaibhav. (2011) produced a paper titled "ICT and Teacher Education," in which he emphasized the world is changing fast; new frontiers of knowledge are being added with passage of time. There have been technological advancements and developments in the field of energy, environment, and communication. Since last few years' technology has become an important part of education. To enjoy benefits of technology the time has come when the teacher educators will have to learn how to be co-learner with the trainees. The school curriculum must gear up to face the challenges of ICT, and accordingly pre-service and in- service programmes should be aimed to train prospective teachers to use ICT competently and making teaching learning process a joy.

Kamble, Avishkar. D. (2013) in the paper titled "Digital classroom: The Future of the Current Generation," examined in length the significance of digitization in education and stated that a modern classroom is basically an Information & Communication Technology based classroom. This aims at converting traditional classrooms into interactive sessions by combining best hardware with syllabus-compliant, multimedia content. In many colleges, computers are used by teachers and students for better communication and learning. The paper discusses how a digital classroom is basically an ICT-based classroom which helps to convert traditional classrooms into interactive sessions.

Nigam, Anushree. Srivastava, Jyoti. Lakshmi, Tanushree. Vaish, Anurika. (2015) in their combined paper titled "Digitizing Education: A Cost Benefit

Analysis,” argued that Use of technology has become a common practice in today’s world. As the world is moving rapidly towards digital media, the role of IT in education has become increasingly important. Development of digitization can be outstanding if it can be utilized in education, research and extension activities which can be cost effective. The paper attempted to understand whether traditional approach of education can be replaced by digital mode of education or not? The paper focused upon three things Firstly; it exhibits the transition of education from a traditional educational approach to digitized approach. Secondly, it analyses the associated cost and benefits of digitized education today. Finally, it attempts to propose few mechanisms for incorporating digitized education and its impact in higher education scenario towards building India as a Technoscape for future advancement.

Jha, Nivedita., Shenoy, Veena. (2016) in their research paper titled “Digitization of Indian education Process: A Hope or Hype,” stated that over a period many changes have occurred in different sectors of economy including the education system. Education sector unlike any other sector has seen many stages in its evolution. From Guru-Shishya system of conducting the class in open garden under the trees to closed class room lectures, presentation form of teaching with the aid of LCD touch-screen projector to online notes and now instant WhatsApp messages is the buzzword among the students. WhatsApp has gained the status of being authentic formal means of communication among the students and the academicians. The paper analysed the introduction on electronic modes of imparting education and to analyse whether in the given state of Indian

education it inspires hope or is just another hype created in the sector.

Kapur, R. (2018). In his research paper titled “Significance of Digital Technology” said digitization has both positive and negative effects. Negative outcomes include cyber security, cyber protection, and cybercrime. In this context, individuals should develop their knowledge, skills, and abilities to use it and learn how to manage and use digital technologies appropriately in society safely and responsibly. The online safety of students and individuals is essential in education. As a matter of fact, digital information can be rapidly reproduced, distributed in a manageable way, and stored in various locations.

Bozkurt, A., Hamutoğlu, N. B., Kaban Liman, A., Taşçı, G., & Aykul, M. (2021)) in their research paper titled “Digital information age: Digital society, digital transformation, digital education and digital competencies” stated that, higher education institutions must adapt to the digital transformation process. The success of digitalization in higher education institutions depends not only on adaptation but also on the usage of the new technologies or the latest tools. On the other hand, the content of the education system should be rearranged to aim at providing the right tools and skills to prepare the workforce of the future.

OBJECTIVES

It is necessary to investigate and understand the advancements in educational technology and the variety of methods used to deliver knowledge to improve the quality of education. Thus, the main aim of this research paper is to study about the Digital education tools and the challenges associated with it.

BASIC TOOLS OF DIGITAL EDUCATION

1. Correspondence

It is a form of distance education in which educators and students are separated with physical distance. Distance learning has a long history and there are several types available today which are divided into Synchronous and Asynchronous mode. In Synchronous learning, all students participate in the class at the same time through Internet chat sessions, teleconferences, telecourses, and web conferencing etc. Synchronous distance education requires all enrolled students and the teacher to be online at a specific time, so is not flexible. Asynchronous instructions is more flexible and do not require simultaneous participation of all students in the class. Students are free to interact with the material and instructor at a time that is convenient for them in asynchronous mode.

2. Community Radio

Radio as a powerful mass medium is also used in education for dissemination of information for a period of more than 80 years. It is used in the form of school broadcasting, general education, adult basic education also. Distance learning frequently employ radio for its advertising and teaching, thus supported various educational programs. Government runs programmes like Radio Vahini through Community radio station of National Institute of Open Schooling. Gyan-Vani (Educational FM radio channel of India) etc. to provide quality education to its learners.

3. Television

The first exclusive national education TV channel GYAN DARSHAN was launched

in January 2000. This channel is accessible to 40 million viewers through cable TV across the country. Channel KISAN is launched in 2004 for the Indira Gandhi National Open University agricultural courses. It is very useful for online chatting, virtual class room and meeting. A group of 34 DTH channels devoted to telecasting educational programmes on 24X7 basis for school and university students.

4. Online

Online education is defined as a form of distance education that uses computers and the Internet as the delivery mechanism, with at least 80% of the course content delivered online (Allen & Seaman, 2008; Shelton & Saltsman, 2005).

- a) In IGNOU, eGyankosh- one of the world's largest repositories of educational resources in higher education is available to public for free. It provides self-learning method of around 2565 courses and on 2388 videos programmes of IGNOU. It preserves and enables easy and open access to all types of digital content.
- b) VIDYA LAKSHMI PORTAL: Purpose of this portal is to have facilities of education loan, scholarship and other student friendly facilities through one link.
- c) MOOCs: HRDC has launched a Massive Open Online Courses (MOOC's) platform known as SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) in 2017. The portal is offering various online courses for school children and higher education. NCERT developing course modules for MOOCs for school education system in 12 subject areas for classes 9-12 in the first cycle and 21 in the second

cycle until November 2018. Around 22,000 students and 30,000 students were registered in the first cycle and second cycle respectively.

- d) PATHSHALA: A single point repository of e-resources-PATHSHALA containing NCERT text books has been developed for showcasing and disseminating all educational resources including textbooks, audio, videos.
- e) DIKSHA: Digital Infrastructure for knowledge sharing (DIKSHA) is developed by NCERT and MHRD Govt. of India with the objective that all teachers across the country are equipped with advanced digital technology. It provides appropriate content related to school curriculum for all teachers, students and parents.

CHALLENGES

Although digital education has important strengths and provides unique access to quality education, the use of this platform has limitations that can pose potential challenges to the success of any online courses.

1. Computer Literacy: To work effectively in an online environment, both students and intermediaries must possess a basic level of computer literacy. They need to be able to use a range of search engines, for example, and to access the World Wide Web easily, as well as to be familiar with newsgroups, FTP procedures, and e-mail. They cannot excel in an online program if they do not have these technological tools; a student or faculty member who cannot work on the system can pull the whole program down.
2. Lack of Teacher-Student Physical Interaction: How much teacher contact learners get on a physical campus is easy to

underestimate. Then there is the instruction time itself, with the question-and-answer in real-time. Then right before and after training, once hours, chance encounters in the corridor, there is an opportunity for discussion ... all possibilities that are not accessible for digital education.

3. Need for Self-Discipline: In a tertiary education classroom environment, many students struggle with self-discipline. They do not have parents and teachers constantly checking in for the remainder of their time. If they miss homework to go socialize, they do not get grounded. It takes time for others, and the intrinsic drive to buckle down and do the job. It is even easier to "skip class" or place an assignment on an online course.

4. Technological Difficulties: We prefer to take it for granted that a laptop or desktop computer of the latest model is available to everyone. Not every student has had the same access to technology, however, even for a generation of digital natives. For all their online operation, many rely on their smartphone or a tablet. Some would have restricted broadband or Wi-Fi connectivity, even though all their information comes from their phone plan.

5. Poor Time Management: This challenge is connected to the aspect of self-discipline, but it deserves its entry. One of the main benefits of this approach is that students can learn at their speed. The profit can also be a liability, however. At the end of the term, there is a point at which "their own pace" becomes "Procrastination and a crazy scramble." It is necessary to help students maintain their pace well before the deadline reach.

6. Digital Education is not suitable for Practical Courses: For practical activities in

tertiary education, digital and e-learning are incompatible. E-learning offers realistic session-related knowledge and preparation, but instead of mastering preparing, the learner does not measure their output or real-time experience. Knowing things and moving them in an unsystematic way is pointless.

7. Transmitting virus: These programs attach themselves to a file and then circulate. They usually affect the data on a computer, either by altering or deleting it.

CONCLUSION:

The pandemic has left the teachers and the students with no other option except to go

for digital learning. There is complete shift from normal classrooms to e- classrooms i.e., education sector has started online/digital mode of teaching. Government is taking initiatives to overcome this problem to provide quality education and is making efforts to make large amounts of information/ content digitally accessible to the students. Digital learning through various online platforms and online content strengthens the learning experiences of students and teachers. Thus, technology enhances the engagement and development of the students with more access to information and technology knowledge.

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