

Emerging Trends and Digitization in the Education System

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Abstract

Education plays a key role in nation-building as it decides the direction for the society to develop. Education is the driver for achieving different societal milestones. Advancement and development are the need of the day and both cannot be achieved without education. For this reason, education has caught the limelight and turned out to be of paramount significance. Education, provides a conducive environment required to ensure all round development of an individual. In the current context of the education environment, digitization is a powerful tool to bring about modernization.

Digitization refers to the introduction of new technological tools to be used as resources while imparting education. In the 21st century when the world is testing technology like 6G we are using decades-old techniques of imparting education. In developing countries where there is a lack of resources, the educational system is being run in a very old-fashioned way. In this research paper an attempt is being made to discuss the reforms being made towards digitization of education and further emerging trends and their system.

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Indian Education System in Ancient Times

Recognizing the need and importance of education in the development of Indian society, systematic system of education was developed in India in historical times. In ancient times, there was a tradition of sending the child to Gurukul to acquire the knowledge of different fields like Chemistry, Politics, Biology, Astronomy etc. Not only Indians but also a large number of foreigners took education from institutions like Taxila, Nalanda etc. However, reforms and changes were witnessed in the then-existing educational system, with the rise of Buddhism. Buddhism differed from the Vedic education system as the Buddhist system of education was known for equality among all castes. Not only Brahmins were the teachers but others also and education was available for all. The Buddhist education system brought about positive changes in the methodology of education as it was more people-centered.

During British rule, the Christian missionaries started their work in the field of education, though they focused primarily on conversion and the spread of religious teachings. The Charter Act was introduced in 1813 in which a sum of ₹ 1,00,000 was sanctioned to be utilized for the education of Indians. Under colonial rule, education was provided only for clerk production who would act as a connecting link between the British government and the Indian masses. The sole objective of the system was to keep the British rule strong and to exploit human and natural resources to the maximum possible extent.

Starting of Digital Education

Digital education refers to teaching learning through electronic devices using soft content. Through this system of education, students can learn without being physically present in any school or college. Digital education can be categorized into two types. The first type constitutes the one in which teacher and learner are connected on real-time basis as through video conference. In the second type real-time connection is not present between the teacher and the learners as in TV and radio. The attempt for widespread of education through digital means was first made in 1937 through a radio program named school broadcasting project to be done with the school. This program was then limited to Mumbai, Delhi, Madras and Calcutta. However, the program could not be successful owing to the disparities in timetable in syllabus across the states. In 1956, a UNESCO-assisted program was initiated on All India radio as a “Community development project” to spread awareness of agriculture-related work. The program ran based on listening cum discussion cum action and was named a “Radio forum project”. This radio program was operated in 144 villages in Maharashtra and was the first to achieve success.

Other such successful programs are- the “University Broadcast Project” of 1965, “Farm And Home Broadcast Project” Of 1966, “IGNOU AIR Broadcast” of 1992, “Gyan Vani” of 2001 etc. (R.V Vyas et al, 2002) . The year 1961, marked the starting of education through television. This program was named a Secondary school education project. The aim behind the launch of this program was to teach English Hindi physics and chemistry to the students of class 11th. In 1966, “Delhi Agriculture Television” was started to provide information related to agriculture to the farmers in Delhi. The program proved to be beneficial in terms of educational action towards green revolution in India. In the field of digitization in education, development was witnessed with the launch of the INSAT (Indian National Satellite) program. The main focus of this program was on rural and backward areas. Through this project various educational programs were launched, thus benefitting thousands of students. In 2000, with the combined efforts of the Ministry of Information and Broadcasting, Ministry of Human Resource, IGNOU and Prasar Bharati, a television channel “Gyan Darshan” was started which was dedicated exclusively to education. Initially it was broadcasted for only 2 hours but in due course of the time limit was extended to a whole day.

In 2017, a group of 22 channels named “Swayam Prabha” was broadcast to provide enriched educational content for the students of higher secondary and higher education. Later on, the number was increased to 34. Swayam Prabha is a 24*7 and free-to-AIR group of channels. Fresh content is provided for 4 hours and gets repeated 4 to 5 times a day so that the students can watch at their own convenience. (R.V. Vyas et al, 2002)

Digital Education during the COVID-19 Pandemic

Outbreak of the COVID-19 pandemic brought about a revolution in the educational system and the COVID-19 pandemic affected our lives badly. Developing nations like India were badly hit in terms of education. All schools and colleges were closed from 25 March 2020 due to the lockdown which had devastating outcomes for students especially for primary classes. 2.40 crore enrolled students faced loss of learning during lockdown. To mitigate this loss, guidelines for online classes were issued by the Ministry of Human Resource and Development. As per the guidelines, students were classified into three categories based on the availability of the Internet and devices. The first category comprised of the students who possess smartphones and the Internet. The second category includes those who possess a smartphone but do not possess the Internet. In the third category, some students can study through television or radio only due to non possession of online resources. For these different categories, comprehensive guidance was provided by the ministry

to ensure a hassle-free teaching-learning process. In government schools online classes were provided through the “DIKSHA” platform (an initiative of NCERT). Various other platforms like Zoom, Webex, Google Meet etc. were used by private schools, colleges and other educational institutions. YouTube videos and channels gained popularity wherein the educationist delivered educational content either live or in recorded form.

Despite all these efforts made by government and educational institutions, a study conducted in January 2021 by, Azim Premji University on more than 16,000 children of classes second to sixth from 5 states revealed that over the past year around 92% of children lost at least one specific language ability. 82% of children lost at least one mathematical ability. Poverty, low internet penetration and bandwidth are the major obstacles to online education in India. The Parliamentary Standing Committee report conveys, “about 70% of the country does not have access to Internet connectivity and available quality of connectivity is poor” (Manas Gohain, 2021)

More study and research are required to be done to provide better methodology, interaction and design in the online system of education.

For this research paper a survey was conducted using Google Forms. 120 educationists including Principals, Professors, teachers, research scholars and students were requested to lock their responses through the concerned form. In the survey, a total of 5 different questions (4 closed-ended and 1 open-ended) were asked.

The first question was, which of the following (given options) can be improved through digitization in education? In response to this question 62% of respondents replied that the full education system i.e. teaching practices ,teaching process and learning outcomes can be improved through digitization, while 19% are of the opinion that only teaching learning qualities i.e. learning outcomes can be improved. 12% think that digitization will improve only teaching learning behavior and 7% believe that the teaching process can be improved through digitization (Figure-1). Second question: How does digitization contribute to improving the education system? In this 37% of the respondents believe that through digitization students get an opportunity to learn at their place from a teacher outside their city, state and even country and also they think that it provides unlimited study material that can be accessed by the learner from anywhere 34% of the respondents think that digitization provides a better way to learn. 29% of respondents think that it provides better facilities and students can learn from wherever they want (Figure-2). The third question: When did you start to use more of digital sources of learning? To this question 73% of respondents replied that they comparatively started to explore and use more digital sources of learning after COVID Pandemic and 27% confirmed that they were in much use of digital sources

of learning even before COVID-19 and thus there is no change in their usage. The fourth question enquires about whether traditional or digital systems can help in imparting education in a better way? For this 54% of respondents were found to be in favor of the digital system while 39% of respondents believe that the traditional system is better and cannot be substituted by any other system. 7% of respondents were found unable to confirm anything. The fifth question, which is an open-ended question, asks about the drawbacks of digitization in education. In response to the question, almost everyone answered differently. Some of the main responses recorded are- the possibility of increasing depression, inadequate teaching methods, no proper way of ensuring ethical values and discipline in students, loss of phonetics, no development of teacher-student relationship, bad effect on the health of students and negative effect on their personality.

Conclusion

The above analysis conveys that in countries like India, where no basic educational system exists and none can be established out of improper population ratio, meaningful changes are inevitable in the educational system.

In India, the online mode of education is still in the early stages of its development. Therefore, clarity of the problems faced and expectations of teachers and learners can act as a guide to designing structured and more effective strategies for online classes. It will help to spread education even in the remote areas of the nation.

Ques 1: Which of the following can be improved through digitization in education?

- a) Teaching process
- b) Teaching practice
- c) Learning outcomes
- d) Whole education system

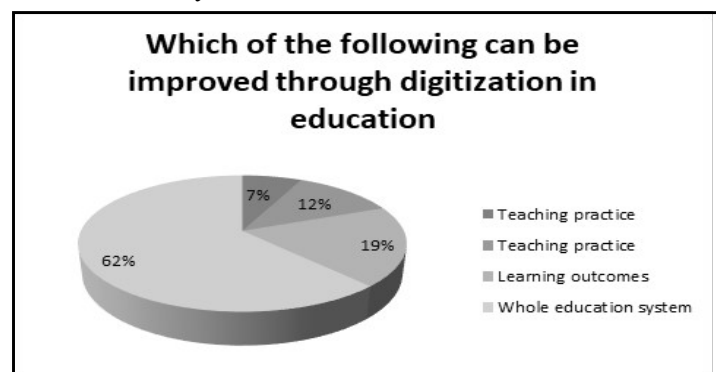


Figure 1

Ques 2: How does digitization contribute to improving the education system?

- a) Digitization provides better facility
- b) Better way to learn
- c) Opportunity to learn at own place from a teacher from outside and provides better resources and materials

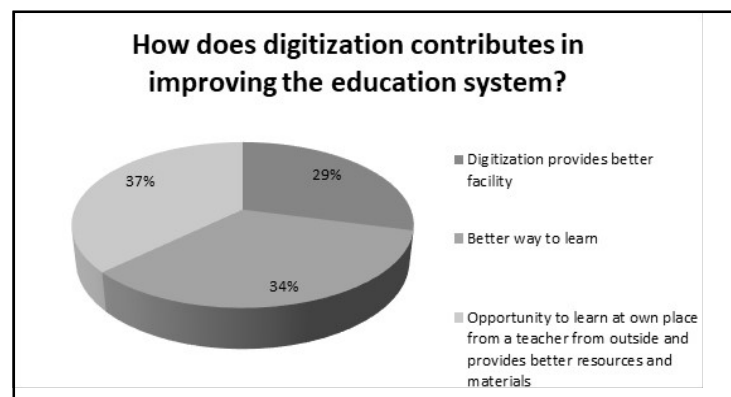


Figure 2

Ques 3: When did you start to use more of digital sources of learning?

- a) Before COVID-19
- b) After COVID-19

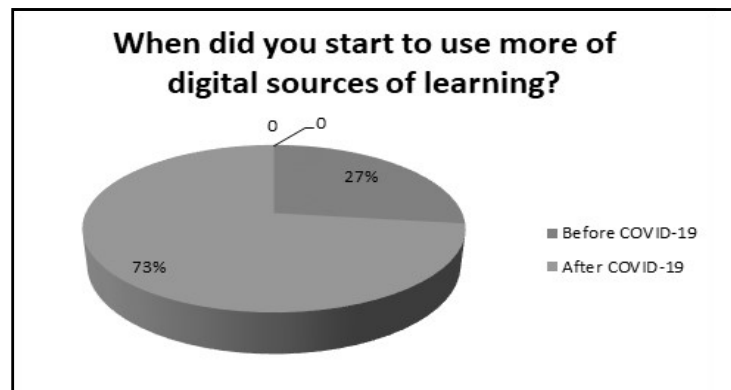


Figure 3

Ques 4: Which system can help more in imparting education in a better way?

- a) Traditional system
- b) Digital system
- c) Can't say

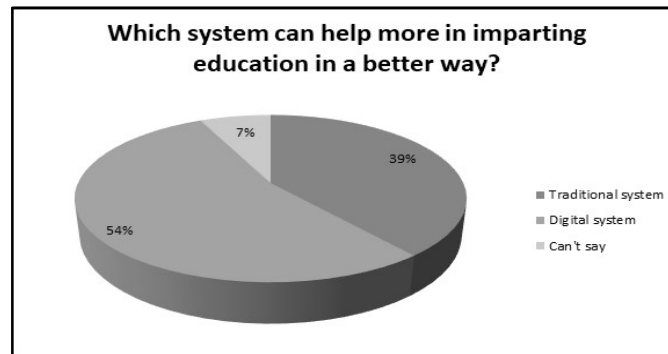


Figure 4

Ques 5: What are the drawbacks of digitization?

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