Evolution of Education System and Techniques: A Comparative Study

Tanya Garg and Ruchi Goyal

Abstract The main aim of this paper is to analyze the features and the nature of the modern education system and its processes in India where culture and ethnicity are not only the base of diversity but also the affordability and purchasing power of the Indians (Jha and Shenoy in IOSR J Bus Manag 18(10):131–139, [1]). Education system is a hope to everyone, and therefore it must not focus on creating hype. With the passage of time, various changes have raised in diverse sectors of the economy which also consists of the education system. Unlike any other sectors of the economy, education sections have been through different stages of evolution. From the traditional system of Guru-shishya of conducting classes under the tree in an open garden to walled classroom lectures, from presentation teaching method with the help of LCD and projectors to providing online notes, we have come a long way. And now, WhatsApp messages and live lectures through online platforms have become the trend among the students (Marathe in Digitalization in education sector, [2]). The fact cannot be ignored that these days WhatsApp is considered to be the most used and reliable formal means of building up communication among the academicians and students. Not only this, but screenshots have affected many businesses of photocopy outlets operating within many college and school premises. India is constituted of a variety of cultures and ethnic groups, but besides these differences, the most noticeable difference that directly affects the Indian Education System is the capability and power of diversity of the Indians.

Keywords Traditional education · Digital education · Education system and techniques · COVID-19 · Strategies for increasing effectiveness

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1 Introduction

Innovation and technology have now become a predominant platform in every sector of the nation [3]. This is due to the impact of change in the past few years. There is no doubt that technology or digitalization has made our lives easier than ever before. The fact cannot be ignored that digitalization has grasped the economy so fast that there is no option left to adapt the changes according to time.

In the current scenario or era of digitalization, it has become necessary for education sectors to adapt to the dynamic environment as it enables it to match the footsteps of a fast and competitive world. The digitalization in India is a result of the Western Education System that came into existence with the British Raj. British have evolved diverse ways of educating and learning, and India still lags. It has been noticed that teaching is still carried out in traditional classrooms with a rigid syllabus dominating the daily curriculum.

Digitalization in education has added fluidity and flexibility in the prevailing education system [4]. While the existing or traditional education system follows a uniform approach, at the same time digital platform follows a customized approach with the help of which requirements can be customized as per the students’ requirements. In other words, it can be modified or molded according to the requirement and capability of students to understand and subject.

Apart from this, the [5] digitalization seems to be a more practical platform for tracking the performance of the students. The progress of a student can easily be evaluated through his attendance, examination score, assignments, etc. Also, one of the biggest advantages of digitization in education is “no requirement of physical appearance.” Unlike the traditional education system where students were required to be present in the classroom, digital methods of teaching have given relief to students as well as teachers to learn and teach from anywhere and at any time.

In today’s fast world, the only thing people run out of is time. And [6] digitalization in education has proved as a big time saver for all. Not only metro or fully developed cities are adopting this platform of education, but also remote areas are trying to walk with the pace of the urban world education system. Well, it can be said that digitalization in education has come as a rescuer for the students as well as for the system. Now at present, digitalization in education is considered to be one of the most powerful trends in terms of modernization and reformation of the global education environment.

This paper explores the digitalization in education and its influence or impact on the global education system.

2 Evolution of Indian Education System

Indian education system has transformed a lot in various aspects from ancient times [7]. Indian system of education is uniquely diverse in dialect, language and culture.
In former times, Gurukula system of education was prevailing in India where pupils and teachers lived together at distant place and various philosophies, science, arts and techniques were taught to them. Students used to help their teachers in their daily chores as a favor returned to them and guru was considered as a central persona.

Before British rule, madrasas and vedic schools were prominent in medieval period. During British rule, a new modern system of education was introduced. Lord Thomas Babington Macaulay in the 1830s introduced English, mathematics, language, science, civics, geography and history to India. According to them, metaphysics and philosophy were unnecessary. The teaching mode was restricted to traditional classroom which made the relationship between teacher and student stronger.

Modern system of education evolved gradually after the independence of India from British rule. Here, in India school system of education was divided into four levels which is pre-primary, primary, secondary and higher secondary. Central Board of Secondary Education (CBSE) and Indian Certificate of Secondary Education (ICSE) are two of the nation boards as well as state boards. With the advancement of technology and education, various private schools forward to digitization through e-learning. This increased the engagement of students with the smart learning such as digital textbooks.
There are many fundamental changes in education system of India starting from religious teaching of Vedas and scriptures to virtual teaching through programming and others. A number of schools were established in India in various regions of the country to foster education in every aspect if society includes English medium schools. Schools today have 1:1 ratio of student and computer. Technologies like projections, online assignments, online classes, etc., are used in teaching for making students and their parent’s technology sound. There are more than 1.5 million schools, 8.5 million teachers and 250 million students belonging to various backgrounds comprising education system of India (Source: Performance Grading Index 2017–18 under Sarv Shiksha Abhiyan).

### 3 Difference Between E-Education and Traditional Education [8]

| E-Education                          | Traditional education                                      |
|--------------------------------------|-----------------------------------------------------------|
| Individuals can study from the comfort of their home or office | Teachers and students can interact only in walled classrooms |
| E-education is based on learning management system | Traditional education is completely based on books |

(continued)
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| E-Education                                           | Traditional education                                           |
|-------------------------------------------------------|---------------------------------------------------------------|
| Learning process is faster than traditional education | Learning process is slow                                       |
| This method results in saving time, money and efforts  | This method requires more time, money and efforts              |
| This is a flexible method as it just requires an online platform to teach and learn | Both students and teachers need to be physically present       |
| Students can pause, read and test out of content       | Students need to be more attentive to understand the lectures |
| The students can go back to the lecture again and again to understand it | The students can ask the questions at the time of lecture |
| E-education can help teaching large number of students at a time | Limited number of students can be taught at a time |
| The study material is present on electronic media      | The study material is given in a written or printed form      |

4 Literature Review

Madhumathi—A computing system which is based on provision of learning anywhere, any device and anytime is known as e-learning-based cloud computing. With the development of cloud computing, every research scholar, faculties, students and administrators are being benefitted.

Manoj Kumar, who has worked with professional education and also with technical applications in learning in Indian education system discussed on the very popular strategy or using smart phones in education technology.

Prof. Abu El—The cloud computing is known to be helpful in solving different kinds of e-learning problems. He further proposed that the environment emphasizes on monitoring and designing an environment that is based on the reuse of existing web techniques, services and tools for providing browser-based application.

Shikha Dua et al.—They outlined that the future of digital education is based on video learning, learning based on gaming, digital classroom, etc.

Pooja Thakar, Manisha and Anil Mehta reviewed about mining of educational information based on various results of survey. Technological or mechanical learning helps people to be informative so that they can solve a problem.

Radhika R Halde introduced mechanical learning as one of the approaches for finding out the performance of students.

Jinal Jani and Girish Tere—Digital India is a program which is introduced by the government for the digital education development in India. It has various important factors; one of them is digital education.

Tunmibi, Ayooluwa Aregbesola, Pascal Adejobi and Olaniyi Ibrahim proposed that the increased use of digitalization or we can say e-learning at various
schools and universities showed that most of the educators were in favor of this technology and also stated that e-learning helped their students to get more resources and knowledge.

Jayesh—Nowadays, many teachers and students are generating interest in digital learning tools (Moodle, Twitter, Diigo, Glogster and Dropbox). These tools help to make learning process interesting and also help in student’s motivation, which is not possible in traditional classrooms. The use of digital learning makes boring learning joyful and interesting for teachers and students.

5 COVID-19: A Case Study on Digital Education

- Around the world, almost 1.2 billion of students are staying at their homes due to COVID-19 which resulted in shutting down of educational institutes all over the world [10].
- So, digital or technical platforms are taken into account for teaching, leading to change in education adequately.
- According to recent research, it was noticed that e-learning holds the data prominently and less time consuming, seeing that coronavirus is going to stay for a while.

The acceptance of online education was started even before outbreak of COVID-19, as the figures of investments in online education in 2019 were approximately 18.66 billion dollars and were expected to reach 350 billion dollars by 2025. This growth of e-learning is rushed since COVID-19 situation, whether it is the use of various learning apps, learning software, video calling toolset.

According to the Chief Operating Officer of BYJU’S, Mrinal Mohit, there is an increase in number of students using this platform to about 200%. Not only that companies like BYJU’S are providing free access to students for their facilities.

Meanwhile, Tencent Classroom started to be used at a larger number by students and teachers after the government in China announced to the billion of students to start learning through electronic platforms which resulted in initiation of an online movement with the attendance of 730,000 students of K-12, in Wuhan.

Apart from this, according to Chen Hang, CEO of the DingTalk, Alibaba distance learning, they tapped Alibaba Cloud so that they can deploy 100,000 cloud servers within two hours, resulted in a new record.

IMAGE

Not only this Prof Dr Amjad, from the University of Jordan stated that e-learning has totally changed the idea of teaching. Now, the teachers are able to reach the students very effectively and efficiently by using various online tutorials, video meetings, presentation or document sharing, etc. According to him, traditional learning and e-learning can be worked together in upcoming future.
6 Impact of COVID-19 on Education Level Globally

Learners who are affected or impacted by closure of national schools worldwide

![Student and Educator Enrollment](image)

This figure showcases the numbers of students and educators who enrolled at different levels of education like schools, colleges and universities, also education at tertiary level.

7 Strategies for Increasing Efficiency of E-Learning System

[11]

For the smooth engagement and captivation of online learning, there are five strategies worked out as an instruction.

**First will be making emergency plans for the problems which are unexpected**
As we know, at present time most of the courses are switched to electronic education mode, and as a result it is possible that sometimes computer servers would not be able to host a large number of users. So, to solve these kinds of issues, faculties must be ready with some other plans for the students.

**Secondly, teaching content can be divided into small parts to increase the focus of students**
For ensuring full concentration of the students in online studies, it is required that educators should try to divide the content of teaching into various topics and acquire flexible methods of teaching or we can say they can adopt a new structured curriculum divided into small modules of 20–25 min.

**Third, laying more stress on the use of “voice” while teaching**
When talking about traditional method of teaching, the important tools are teachers’ voice, facial expressions, body language, etc. But in online teaching, these tools are
not much of importance except “voice.” Hence, faculties required to control their speech accordingly so that it will allow students to grab key points.

**Fourth, strengthening of learning ability of students outside the classroom**

During online learning or teaching, teachers tend to have no control; as a result, some students are likely to bunk or leave the class. For this, it is necessary that faculty should try to use different methods of modifying students’ homework for strengthening active learning of student outside the classroom.

**Lastly, combination of e-learning and self-learning**

In traditional classroom, teaching common problems is insufficient preparation before class, less class discussion participations, etc. So not to face these issues in online teaching, faculties can create two-phase process: One is self-learning offline phase, where students need to read some literatures and do short papers based on their reading material, on which faculties can provide their feedback later on, and the other is online teaching, in which faculty can exchange their views with the students. It will help students to experience depth learning.

8 **Conclusion**

This paper concludes that [12] online learning is very effective in present world taking into consideration the present situation of COVID-19, which made almost all the educational institutes around the world to learn the importance of e-learning system. Also, it helped to modify education system for future perspective. However, it requires some improvements in its implementation strategies and techniques, which are suggested in this paper. More in-depth study may be conducted based on the levels of education, namely primary, secondary and higher education level by the future researchers.

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