A Study on Impact of Digital Education in India

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Abstract

The traditional education system no longer fulfils the modern day complex needs where everything is dynamic and evolving at a very fast pace. There is a huge amount of transformation that takes place in the present world in every nanosecond. Therefore, a new and modern way of education is required to handle such transformation arising as a result of creation of huge amount of information in a systematic manner. Thus, to resolve the shortcomings of the traditional education system, the world is moving towards digital education which addresses all the issues and challenges of traditional education. Digital Education can be defined as the use of a combination of technology, digital content and instruction in the education system to make it more effective and efficient than the traditional education system. Through this research paper, an attempt has been made to discuss the upcoming trends in digital education system that will shape the future of our coming generations for the better.

In a developing country like India Higher education is very important for human growth and human development. Higher education in India has experienced phenomenal expansion since independence. While digitization is ushering in a new era of transparency, efficiency and accountability, its proliferation in the field of education has brought about disruptive changes with a potential to radically alter the conventional landscape. Today there are tools available to transform learning from an academic exercise to an engaging experience in imaginative and experiential learning. Pervasive and persistent technologies have today redefined the conventional role of the teacher. There have been initiatives to introduce technology into the realm of education, but those have been sporadic and unrelated. This article is aimed at analysing the nature of the modern education process in India where diversity is seen not only in culture and ethnicity but also in purchasing power and affordability of the Indian people.
Keywords: Education System, Digital Learning, Technology, Digital Education

Introduction

Digital education means digital learning. It is a type of learning that is supported by digital technology or by instructional practice that makes effective use of digital technology. Digital learning occurs across all learning areas and domains. Digital education gives win-win opportunities for all, at one side School, colleges and other institution finds the rapid rise in enrolments and added revenue because of digital education, and on other side students view this as a flexible and alternate option allowing them to study as per their convenient time and pace. Teachers and professors too find it convenient to prepare their teaching plans aided by digital technology. Teaching and learning becomes a smoother experience as it includes animations, gamification and audio-visual effects.

Over the last few years digital education in India is evolving at faster pace. It is changing the way students learn different concepts and theory in school and colleges. The traditional chalk and talk method in school and colleges has been slowly changing with more interactive teaching methods as schools and colleges are increasingly adopting digital solutions.

Digital learning guarantee more participation from students as the current generation of students are well-versed with laptops, I-pads, and smartphones. There are different private players in the field of digital education like Educomp, Tata Class Edge, Pearson, and

TeachNext who are continuously engage and developing different interactive software to help teachers in classroom teaching.

Education plays an important role in the development of stable and civilized society, polishing human skills, developing the personality of individuals. With technology as a catalyst, education is moving from a knowledge- transfer model to a collaborative, active, self- directed, and engaging model.

Due to the Corona crisis, there is a surge in digitalization witnessed in higher education. Technology is stamping its authority in higher education day by day.   The modes of teaching in higher education have drastically changed in last few years. While some old guards still stay with the old chalk and talk technology, it is very rare that in these days professors do not use some modern technology in class-room delivery. But with Corona crisis, faculty members are compelled to use technology in education. Abundant information on any subject is available on such sources as Youtube, Facebook, Wikipedia, and Google.

In India there are many institutions that have in recent years opened satellite campuses abroad or have signed MOUs with some foreign universities to offer online education. By 2030, India will be amongst the youngest nations in the world. With over 140 million people in the college-going age group, one in every four graduates in the world will be a product of the Indian higher education system. Over the last two decades, India has remarkably transformed its higher education landscape. It has created widespread access to low- cost high-quality university education for students of all levels. With well-planned expansion and a student-centric learning- driven model of education, India has not only bettered its enrolment numbers but has dramatically enhanced its learning outcomes.

With the effective use of technology, India has been able to resolve the longstanding tension between excellence and equity. Digital technology classrooms require a shift from a teacher-centered to student-centered environment where the faculty member must take on multiple new roles.

Review of Literature

1. Jinal Jani and Girish Tere (2015). Digital India programme introduced by government of India is important for the development of digital education in the country. Digital India drive is a project initiated by Government of India for creation of digital empowered society across the country. It will help in mobilizing the capability of information technology across government departments and helps in delivering the different governments programs and services. Digital India will help in creating job, providing high speed internet and digital locker system and so forth. Digital India has three important components namely digital infrastructures creation, digital delivering services and resources and digital education.

2. Shikha Dua et al., (2015). They have discussed the different issues, trends and challenges of digital education in India and suggested the empowering Innovative classroom model for learning. The future trend of digital education includes digitalised classroom, video based learning, and game based learning and so forth. They have pointed out different challenges of digital education India and suggested measures to overcome these challenges Constant reforms required in schools and teacher for the development of digital education in India.

3. **Himakshi Goswami (2016).** The study highlighted the different opportunities and challenges of digital India programme in India. Digital India programme introduced by government of India will help in transforming country into a digitally empowered economy.

This will help government of India to integrate the Government Departments with the people of India. The main purpose of this programme is to reduce the paper work and help in providing different Government services electronically to citizens. It describes the different opportunities of the programme for the people of the country. India is having different languages, culture, and customs, food habits, laws and traditions. The purpose of digital India programme is to integrate whole country digitally but languages would be the main challenges in the implementation of such programme.

4. **Jayesh M. Patel (2017).** There are many web based tools which can be used in the classroom for digital education like twitter, Glogster, Prezi, Diigo, Dropbox, and Moodle. Teachers and students are interested in web based digital learning but because of lack of knowledge they are not initiating the same. Web based tools will make the learning interesting and students will get motivated which normal classroom cannot do. Currently the teacher centric approaches are making learning boring even for interesting chapters , use of digital technology makes even boring content interesting and joyful. The concept of child centred approach will be fulfilled only with the help of digital technology.

Objectives of the Study

1. To understand about the concept of Digital education system
2. To indicate the factors influencing in the Digital education system
3. To know about the challenges are faced by the digital education system

Components of Digital Education

Primarily Digital Education has 3 components:
  ➢ The content
  ➢ The technology platforms
  ➢ The delivery infrastructure

These components are better understand in different way let's take an example of BYJU's, one of premier organisation offering digital education for school sections, college sections and various competitive exams. They claim they will make teaching a fun experience for your child. They are offering good content for each section covering all the academic details. All the portions are loaded in digital tablet by Samsung or Lenovo. They are having good delivery infrastructures, once you have placed ordered as per your requirement, the product will be delivered at your place and thereafter they will give online demo to use the same. With the Use of information and communication technology in education is based on certain pre-requisite and only after meeting out these basic infrastructural requirements we can move towards digitization of education. Some of the important peripheral components towards digital bound class rooms are expressed below:

1) Smart Boards SMART Board is an interactive whiteboard developed by SMART Technologies. It is a large touch-sensitive whiteboard that uses a sensor for detecting user input (e.g. scrolling interaction) that are equivalent to normal PC input devices, such as mice or keyboards. A projector is used to display a computer's video output onto the whiteboard, which then acts as a huge touchscreen.

2) Class Room PC Most classes require students to prepare lot of reports and assignments followed by presentations. Thus the basic requirement of digital class is availability of personal computers/ laptops/ tablets wherein large amount of educational

information and data be stored and retrieves as and when required. This allows students to be more in tune with their learning by allowing them to have their own personal computers.

3) Projectors are the basic requirement for digital class as it helps in displaying on board the presentations both be teachers and students for imparting broad based learning. Projectors are hooked with the laptop and acts as a reflector of information from laptop to large screen on the whiteboard for visual presentation before class.

4) Internet Connectivity For successful implementation of ICT in education uninterrupted internet connectivity is the basic requirement. Thus good internet connectivity should be ensured so that information can be shared with others without any delay and so also e-mails and browsing of study material, research reports, world bank and other national and international reports can easily be assessed.

FACTORS PROMOTING DIGITAL EDUCATION IN INDIA

Digitization has started from very tender age, child holds mobile and views and hears videos and songs even when in not one year old. Today, little children are watching their favourite cartoons and learning pictorial rhymes on the same device. Education is being imparted to them through flexible and non-intrusive formats. As a consequence, students across all age groups are discovering the joys of learning and having fun while at it. There has been a noticeable shift in the perception of parents and teachers too are supporting digital learning. Institutions are making efforts to shift the focus back on students to reinvent the way they learn right throughout their life. India might not have readily adopted education technology but it's heartening to see how a traditional sector like education is using technology as an enabler so far. Some of the factors that are enabling the growth of digital education can be cited below.

1) **Personalized and Adaptive Learning**

Learning platforms, softwares and digital devices are together creating countless new ways to modify education. This way, the academic potential, strengths, weaknesses, aptitude and learning pace of every single student is catered to. Precise, mobile and reliable applications are being created to teach students, help them practice their learning, take assignments and manage their schedules. Schools are now providing their students with digital devices like desktop computers, laptops and tablets. These devices are aiding them in the teaching process while also helping them understand how students learn and how to enhance their learning process.

2) **Two-way Conversations in E-Learning**

In the traditional classroom seating scenario, students are unable to get the individual attention they need due to time constraints. In contrast, the one-to-one context of learning in digital mediums currently students can learn through videos and chat with an expert. The upcoming 'Learning Management System' will continue the two-way communication model between students and experts. More importantly, it will let students track their coursework progress, identify improvement areas and offer ways to make the most of them.

2) **Mobile-based Learning**

Over the past few years, mobile learning has picked up by the populace which has gradually assimilated it in their lives. It has offered students the flexibility to access educational content seamlessly across multiple digital devices like desktops, laptops, tablets and smartphones. The smartphone user base in India continues to increase, in both urban and rural areas. The coming years will witness users accessing

most of their educational content through internet powered smartphones in a massive way. Most educational content, including even online courses, will be optimized entirely for mobile devices.

3) Video-based Learning

Video learning has always appealed to students since it closely mirrors the traditional classroom teaching style. Earlier, students watched video lectures as a form of homework and then discussed them during the next class. Over time, this habit brought about a remarkable improvement in their performance, with a noticeable improvement in grades. Video lectures allowed students to learn subject syllabi at their own pace and dedicate time spent in class towards interactions. This will continue to be a trend in the future where students will have access to rich and interactive content, which will be useful for both formal training as well as performance enhancement. The increase in video-based learning on mobile devices will eventually account for 80 per cent of all internet traffic by 2019.

Impact Of Digitization Of Education On Students

There is no doubt that the introduction of ICT in the field of education there digitizing it has helped students and teachers by promoting better flow of information any time at any place at the convenience of teacher and taught by just clicking a button. The digitization has also helped in availability of huge information related to any topic of interest thereby expanding the knowledge horizon and better learning. However, there is flip side of ICT enabled education system which is hampering the mental toughness and analytical skills of students and also has been resulting in attitudinal problems among the learners. Some of the important impacts of digitization of education on students are highlighted below.

1) Obsession

Due to continuous dependence on electronic modes like laptops, mobile phones and other gadgets for seeking information and completing of assignments, projects and even for preparing study notes and completing homework online and submitting to the evaluator in softcopy has proved to be harmful. As a result, young vulnerable teens often get attached to computers for several hours. This often leads to their health being impacted, especially their vision.

2) Obesity

Obesity is a global killer and one of the main reasons for underage children to become obese at a young age happens to be the fact that they spend their maximum time on studies via computer devices and also in free times they stuck themselves to online games than engaging themselves to outdoor and physical activities. This lack of physical activity on their part leads them to obesity, fatness, heart disease, diabetes, repetitive strain injury or eyestrain, wrong posture/position, neck pain, physical and mental stress.

3) Social Disconnect

Although the internet has reduced physical distances between people, but that doesn't means they brought all closer together and emotional distance is increased in some aspects. People always busy with their own virtual world and passing a day. They forget the real world with family and friends and they becoming a formality. Children too are spending more time in virtual world and they adopt wrong thoughts thus rising cyber-crimes and extra marital affairs with the use of ICT gadgets.

4) Reduced Face-to-Face Interaction

In traditional teaching system there was direct face-to-face conversation between teacher and student which use to develop a web of understanding and confidence on each other. Now days, people mostly likes online communication rather than real conversations so people tend to become more individualistic and introvert. Other limitation is that we are not able express our feeling or what we are actually want to say by the use of e-mail or social networking sites. Thus we required face to face communication with them to express our real feeling.

5) Unwarranted Information at Tender Age

Since the introduction of ICT and that too in education students are being provided with tablets, laptops, smart mobile phones with high speed internet connectivity so that they can browse the required information without delay. The dark side of this vast sweeping information technology is that students are viewing unwarranted websites and prohibited content at the tender age which pollutes their tender minds and forces them to unnecessary activities and sometimes even result in promotion of criminalization.

6) Lack of Concentration

SMS and text messaging has become a favourite pastime of many students. Students are seen playing with their cell phones day and night and also during lectures. Being over connected to the on-line world has resulted in lack of focus and concentration in academics and to some extent even in sports and extra- curricular activities.

7) Declining Writing Skills

Due to excessive usage of online chatting and use of keyboard for typing text along with use of shortcuts in texting the writing skills of today's young generation have declined quite tremendously. These days, students are relying more and more on digital communication that they have totally forgot about improving their writing skills. They don't know the spelling of different words, how to use grammar properly and how to do cursive writing.

8) Increasing Incidents of Cheating

Technological developments in the field of education such as introduction of graphical calculators, high tech smart watches, mini cameras and similar equipment have become a great source to cheat in examinations. It is easier for students to write formulas and notes on graphing calculators with little chance of being caught.

9) Declining Mathematical Skills

With the advent of ICT in education and promotion of high tech and scientific/programmed calculators in class rooms and examinations the calculative powers of students have declined enormously. Even, for simple additions and subtractions the find hard to make mental calculations and rely totally on calculators. This is not good in interest of student as it dents the capability to apply brain.

Challenges in Digitization in Higher Education

One of the main challenges for digital education in India is poor internet connectivity in rural areas and some part of urban areas. Majority of population across India has still no access to internet and a large population in rural areas is still illiterate in the field of digital technology.The following are the factors are challenging faced by the digitization in higher education:

Resource and Internet connectivity:

One of the main challenges for digital education in India is poor internet connectivity in rural areas and some part of urban areas. Majority of population across India has still no access to internet and a large population in rural areas is still illiterate in the field of digital technology.

Shortage of trained teachers:

There is a shortage of teachers, formally trained on digital technology. In some of the academic institution in rural areas, school teacher and college professors are not interested in using digital tools for conducting classes. With Corona crisis, many of them have adopted the digital learning.

Language and content related challenges:

Language is one of the main barriers for the development of digital education in India, there are several different languages in different state have been spoken all across country, pushing all the digital content in all these regional languages some time becomes difficult for the agencies. Most of the ed-tech content is available in English which can be constrain for many.

Poor maintenance and upgradation of digital equipment:

In rural areas maintenance and upgradation of digital equipment is one of the major challenge. This is largely due to budgetary constraints.

Insufficient funds:

Digital education involves effective and efficient usage of appropriate and latest hardware and software technology available in the market. In developing countries like India, digital technology implementation into education systems is a difficult task as it requires huge funds and infrastructure.. In this corona crisis a trend of emerging digitalization education has emerged:

Digitalized classroom:

Teachers teaching in the classroom can capture the students and the full strength in the class by digital screens, thus facilitating each child to get the same base content and input from the teachers. This feature of digital era has increased the student engagement as it combines various instructional styles. The aim of must be to engage students.

Video based learning:

Video- based learning is a part of digital marketing has geared up in Indian Education Sector and has made education engaging, entertaining and exploring. It enables learning with a pedigree of learning out of leisure with creativity, fun and entertainment on cards via the wonderful Apps, podcasts, video, interactive software, e books and online interactive electronic boards.

Massive open online course (MOOCS) & Other distant learning programs:

A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. India is considered to be the biggest market for MOOCs in the world. Since the population of India is huge, massive open online course (MOOC) are said to gateways for a lot of Indians in term of bringing an educational revolution. Online distant learning programs give a great opportunity to avail high quality learning with the help of internet connectivity. Digital classrooms are considered as the vital element in promoting and improving the traditional methods of teaching and learning. So all universities must focus on it, and try to attract more virtual students. So they apply the most friendly user software and technology with skilful teachers and engineers to fulfill this aim.

In fact digital class transforms the education process, and cause universal interactivity between teacher and learners as well as among learners themselves, all around the world.

Conclusion

There is no disagreement over the fact that digitization of education is the requirement of the hour in order to match the educational environment and system prevailing all over the world, but at the same time it has to be analysed as to how this system has to be adopted so as to nullify the adverse impact, of excessive dependence on electronic medium of information sharing, on the youth and protect them from behavioural and psychological imbalances. At the same time it is the need of hour that policy makers come up with such system which is a blend of traditional and modern ways of teaching that is protecting the teacher and taught relationship along with promotion of digital education system. Also measures be initiated that the students do not have access to information which is not meant for them and may misguide them to wrong direction propelling unsocial behaviour and violence thinking in them. We have to tackle our youth asset very carefully so as to convert them into meaningful population full of capabilities and responsible natives.

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