

Blended Teaching – Learning and Digitization of Academics

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Abstract

During late 2019, the world saw the emergence of a deadly virus SARS-COV2 i.e. CORONA VIRUS (COVID-19 disease). The COVID-19 disease was so life threatening that governments across the world had no choice but to impose Lock-Down in their respective nations. Ultimately, all schools, colleges and other educational institutions were totally closed and all the academic teaching- learning process got digital. Lectures were being conducted in ONLINE mode only and the related study material (teaching contents) was being digitalized. It will be very apt to say that the digital revolution is edging its way into the online classrooms. As we move forward, we would require the same kind of technology to support us in each and every sector. This study would help us to understand why digitization has become so important in education sector. Equal contribution is expected from all the stakeholders like teachers, administrators, students as well as parents. The study has been undertaken with the help of secondary data including reference articles, blogs and relevant websites. At the end we would understand the various challenges related to funding, infrastructure, attitude, etc that are being faced by the education sector for coping up with such technological changes instead of traditional ‘Chalk and Talk’ method.

Keywords-Digitalization, education, technology, students

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INTRODUCTION

Today, India is one of the world’s top destinations for education with some of the best colleges and universities providing world class practical knowledge to the students. The year 2020 saw a sea change in the teaching-learning methodologies, as this entire process went in online mode. The repercussions of the COVID-19 pandemic were very horrible and not only this, the movement of people was totally restricted. This resulted in many things going digitally. Not only this, the digitalization of education sector was of foremost importance. Lectures were being taken in online mode; practicals were also conducted in virtually using virtual labs and simulations. More so, several companies also started offering virtual internships to the students, digitalized course materials were being delivered to the students, etc.

Digitization started bringing in sweeping changes in this education sector in early 2020's. There has been a shift in innovation strategies pertaining to education sector. Students nowadays have moved towards digital technologies and are becoming technology friendly day by day. Therefore it is the right time for all the teaching fraternity to provide them education in a different and innovative manner in order to make their curriculum interesting. Traditional classroom theories are now been outdated and new digital technological happenings are taking its place for delivering interesting and related content. Classrooms nowadays are getting a digital makeover as teachers are becoming facilitators to students. Hence, Teacher training for the said purpose is equally mandatory for smooth transition. However, as with any movement, critics emerged. Some question technology's real ability to improve student learning outcomes- suggesting that what we're really doing by bringing technology into the classroom is entertaining students.

Education opens doors and creates opportunities for all. It can help anyone clear their way out of poverty. It can create a difference between a life spent in darkness and one spent in continuous learning. The term '*Digitalization*' or '*digitization*' refers to the process of making digital that means in the form of soft copy that can be stored on cloud or in digital format. As we have seen the benefit of having tablets and smart phones in our lives, we have started to stick to it our hopes for our nation's education system, as well. Digital learning has the merit of connecting geographically dispersed people and ensuring the dissemination of knowledge across borders at a lower cost and shorter time. For example, if someone from the 19th century was teleported to view today's Mathematics classroom, they would be astonished to see the scenario- from smart classrooms to children playing with iPods absorbing all the knowledge the world has to give through the internet. The internet is now the principal medium by which students assemble, spread ideas and sow economic opportunities.

Use of technology in school education started in India much before the onset of computers. Educational TV started in 1990s and in 2004, Educational satellite was set up. Computer Aided Learning programme was introduced in 1990s- an integrated technology, which describes an educational environment where a computer program is used to assist the user in learning a particular subject. Earlier, computers have been used only in school laboratories and were just a single subject that was part of the curriculum. Beyond that, hardly the computer has been utilized by common people. But now, various forms of technology have been used by the schools. With more and more people accessing the internet, technology is spreading its wings across the country and mobile applications have led to a surge in the use of education technology. Instead of blackboards, teachers have started using smart boards to show a variety of electronic content such as videos, audios, graphical images, etc to explain various difficult concepts to students in an innovative way.

OBJECTIVES OF THE PAPER

1. To understand the importance of digitization is important in education sector, especially during COVID-19 pandemic era.
2. To interpret the challenges pertaining to digital transformation.

3. To know the impact of digitization on students and on society as a whole.

RESEARCH METHODOLOGY

The study has been purely conducted with the help of secondary data i.e. collecting information from relevant research articles, magazines, journals, blogs and websites.

REVIEW OF LITERATURE

Richards (2006) in his research paper stated that with the passage of time students got engaged with modern gadgets and so with the call of modernization teachers started adopting new teaching methods like projectors, power point presentations, educational software, etc., to make the education delivery mechanism efficient & retainable that enables vital learning. **Pearce-Moses (2005)** said that Digitization is the process of transforming analog material into binary electronic (digital) form, especially for storage and use in a computer. Digitization converts materials from analog formats that can be read by people to a digital format that can be read only by machines. **Witten and David (2003)** defined Digitization as the process of taking traditional library materials that are in form of books and papers and converting them to the electronic form where they can be stored and manipulated by a computer. In a recent survey by **Kim and Bonk (2004)**, it was argued that online class teaching has added the value to higher education in USA. It is estimated that roughly 4 million students take some kind of online education in US. **Kamble (2013)** conducted a study on digital classroom learning and he found that in countries like the UK, Australia, etc –almost all the schools are using technology enabled sources for teaching students. Digital education revolution as an initiative from Australia's federal government is providing technology enabled sources is benefitting their public schools. This kind of government encouragement provides a lot of scope for country's economic as well as social development in the form of students. They know that only private schools cannot sustain in the market forever. Moreover, in an article by **Jeb Bush, *The Blended & Virtual* (2012)** has also stated that with a little adoption of technology (recorded lectures) in distance learning courses it could add multi dimensionality & better enrollments in education in the Universities.

NEED FOR DIGITALIZATION

Apart from being a professional requirement, technology is increasingly becoming a part of our everyday lives. The widespread usage of technology, especially mobile phones, depicts that children are accustomed to it and have a natural curiosity towards it. Hence, transforming learning through the power of digital networking provides an additional academic benefit. With technology changing every single day and impacting the business, the need for quality education is even more critical for our younger generation. They need the right skills and knowledge to fulfill the expectations of constantly changing environment. A digital infusion in learning materials is required because-

i) It allows personalized learning at one's own pace

ii) Academic potential and strengths of a student can be catered to.

iii) Enable students to track their coursework progress and identify their improvement areas.

Moreover, to bridge the gap between different geographical boundaries and to obtain the best practices of different sectors, digitization is of utmost importance. Students residing in any part of the country can access the study materials (i.e. *online learning mode*) and make proper usage of their time and energy.

FACILITATING DIGITAL LEARNING

According to World Economic Forum, by 2025, the demand for technology and computational thinking skills will grow by about one-fifth. For most of us, technology plays an important role in the way how we obtain and process information and apply the same in our daily routine. Students nowadays want to connect between what they learn in the classroom (and how) and what they see happening in the real world. Bringing technology into the classroom helps them in this connectivity and keeps them interested in what they're learning. It also gives options for students with varied *learning abilities*. Increasing engagement does not just mean entertaining our students with new devices; it's about accomplishing the very real task of connecting them more closely to their coursework, to their teachers and to each other. With the increase in the number of teacher-student ratio, it becomes unrealistic for a teacher to give complete attention to his/her students. Lastly but more importantly, with the widespread effects of COVID-19 pandemic, students as well as teachers are restricted to their homes. This has forcefully led to the use of online teaching aids and thereby to adopt digitization in teaching – learning. Hence, digitization of teaching/study materials is way forward.

Although, teachers will have a helping hand in the form digital teaching notes but students will need a person who would explain the concept to them and clear their doubts. So, it will never be a 100% substitution of in-person class coaching. In order to teach students effectively, teachers themselves have to first learn about technology. Teacher's training for MS Office and related tools are mandatory. Moreover, they must also get themselves acquainted with the use of online platforms like ZOOM, GOOGLE MEET, CISCO WEBEX, MICROSOFT TEAMS, etc. Besides, they must ensure that few videos pertaining to their respective subjects are being made by them and subsequently being uploaded on online platforms like YouTube for ease in access to the students 24x7.

The use of technology can be in the form of identifying the students potential as to where they're strong and where they're weak, how best they can learn using online media, and use this data to create customized guide-ways to help students build their knowledge base. Technology is helping to improve student performance — and long-term success. Apple, Amazon, HP, Microsoft and many more companies are already contributing a great extent in the digitization of education by their tablets, notebooks, think-pads, etc.

Microsoft schools programme is a global community of schools that uses Windows devices and tools such as Office 365, Teams, One Note, Skype, etc to transform teaching and learning specially in Science, Technology, Engineering and mathematics. NCERT has developed an online platform in the form of e-Pathshala for

displaying and disseminating a variety of educational resources. AICTE has also developed online SWAYAM courses, which can be enrolled by the students.

Elements of gamification into the education process improve student motivation and information retention as well as their ability to do their own research and work in teams. It also allows for personalization of learning and encouraging students to seek out the content as they like.

Some of the digital tools available for teaching and learning are as below-

- Learn Boost- provide teachers with the ability to upload new lesson plans, create schedules, and even track student attendance. This tool collaborates with Google Apps and stores all necessary information safely in the form of cloud.
- Cacoo- an online flowchart generator tool that also comes with built-in real-time collaboration functionality and helps to display complex data to students by using a flowchart, diagram or graph. Best of all, it allows multiple user accessibility.
- VoiceThread is a teaching app which enables both students and teachers to upload scans, drawings, PowerPoint slides, etc. Teachers and students can then record and upload their own audio comments, which enables creative idea exchange and enhance collaboration.
- ReadWriteThink is an online platform which can help teachers integrate stuff such as new lessons plans, presentations, and also beyond school activities, which they can then share with their students and many more such digital tools are yet to be explored.

Information and communication technology (ICT) in education has facilitated student understanding. Currently, students live in a world that is constantly alive and linked outside the classroom. So traditional 'Chalk and talk' would be slowly vanishing from the system. With increase in digitalization, student's learning gets upgraded while they still carry on taking benefit from mentorship and direction from their teachers. Students stay more attentive with digital mode of teaching. Adding critical thinking, pictures and charts encourage students to think deeper. Online edu-tech companies like- Educomp, Udemy, Unacademy, Tata Class Edge, Pearson, Teachnext, Teachmint, Byjus, etc have been coming up with interactive software to aid teachers in classroom teaching. Schools and colleges have started using LCD screens, audio-visual content, digital recordings of older lectures for imparting quality and up-to-date education.

In few places, teachers have also started uploading their class notes and soft copies of study material on their personal blog for easy accessibility to all students. Hence, to make best use of technological tools, specific training and orientation is required not just to apply curriculum in digital formats but also in related tasks such as evaluation, peer feedback, project work, etc.

ROADBLOCKS TO DIGITALIZATION

As with the appearance of every new opportunity, there comes new challenges and the same is applicable to Digitalization in education sector also. Various challenges are posing threats in the growth of upcoming technological trend which we need to curb out on priority basis. Few roadblocks are as mentioned below -

Poor infrastructure- Due to lack of financial resources, infrastructural development (such as setting up laboratories, digital studios for recording, trainers, compatible computers, gadgets for recording and editing, etc) has been at a slow pace due to which digitization in education sector is not visible at a full length.

Poor electricity- Still in many areas, there is shortage of electricity and in many regions, there is lack of proper electricity sub – station. This in turn leads to shortage in giving new electric connections to the people living in those areas. The end result is digital learning gets hampered.

Poor access to internet- Even with the advent and advancement of 4G high speed internet technology, still there is dearth in access to such amenities and facilities in the semi urban and rural areas. Moreover the gadgets which have to be used for digital learning are too costly to be afforded by the middle class and low income class students living in such rural areas.

Poor digital literacy- Few areas are still lagging behind in education of children and moreover their parents do not feel the requirement of digital education also. Even after 75 years of independence, people living

Attitude towards change- Even if the infrastructure and internet accessibility gets improved, reluctance of getting trained is visible most of the times among the educators. Students can be well groomed and trained only if t teachers are well equipped and have updated knowledge. But, due to their staying in comfort zone, they show resistance in developing themselves due which the students are devoid of such upcoming developments. It should not be treated as an additional burden in midst of other responsibilities by the educators.

CONCLUSION

The study concluded that learning from these different sources is different which can bring transition to Indian education style of learning. It will allow an educator to pick a new style and cater to the needs of the students. Due to the COVID-19 pandemic, technological interventions are fast spreading at various levels and seek to engage all stakeholders- from students and teachers to administrators, parents as well as curriculum developers and national level policy makers. Blended learning has started transforming the way teachers teach and students learn. The introduction of ICT tools in teaching – learning has given a boost to the education sector and it is currently in the initial phase of overall changing academics. Many edu-tech companies has started emerging recently and are providing online certification courses along with digital training and live internships. The digital era is definitely here to stay (at least till the time COVID-19 pandemic subsides

permanently), and there is little we can do to stop it. The thing which matters most is that students must learn digitally, and by communicating with them through an online platform that they are familiar with like Zoom, Meet, Teams, Webex, etc, we have better chances of engaging and getting through to them. In the coming decades, with the help of ICT, the education will undergo a sea change and be more constructive to the coming generation than it was a couple of years back.

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