

Transition From Traditional Teaching Methodology To Online Teaching



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By:

Dr. Malobika Routh
Assistant Professor
Amity University, Mumbai

First Impression: 2020

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ISBN : 978-81-946375-3-0

Rs. 650/- (\$18)

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Published by:
Empyreal Publishing House

ADOPTION OF DIGITAL TECHNOLOGY IN EDUCATION WITH SPECIAL REFERENCE TO TAMILNADU

Dr. K. Natarajan

Assistant Professor, Department of Business Administration, Annamalai University,
Annamalainagar, Tamilnadu, (On Deputation to Thiru Kolanjiappar Govt. Arts College,
Vriddhachalam)

ABSTRACT

Education is an important part of every society. As a student, there are sometimes difficulties that can be experienced. Luckily, there are top tools that have been created to help them get past their hurdles. Since the dawn of digital systems, learning has never been easier. The Educational system of the world today is the way it is today due to these broad changes that various technologies have brought. Technology is enabling ubiquitous access and personalization of education even in the remotest parts of the country due to a rapid increase of mobile internet users in India, which is expected to reach 85% households by 2024. This can change the schooling system and increase the effectiveness of learning and teaching, giving students and teachers multiple options to choose from. Through the technology forum, new technologies like artificial intelligence, blockchain, machine learning, smart boards, computing devices, adoptive computer testing for student development and other forms of educational software and hardware will be integrated into all levels of education to improve classroom process, support teachers' professional development, enhance educational access for disadvantaged groups and streamline educational planning, administration and management. India has been speaking of digital education for long but it has stayed on as a possibility and not a reality for more than a decade now. Even IITs and IIMs have used digital platforms on the side for sharing of content and debating on issues sporadically. The larger mass of 900 plus universities and some 44,000 colleges have actually not digitized their content, not made access to online learning mainstay of their teaching-learning process, except the distance learning universities. Even though lot of support from government, and online teaching tools available in India, still the problem of e-learning persist. Tamilnadu state is one of the state which gives more importance to e-learning technology for school students and teachers are discussed.

Keywords: *E- Learning, technology, education, Tamilnadu, DIKSHA.*

INTRODUCTION

Two decades ago, everyone spoke about the urban Indian, who had a white-collar secure job. Businesses largely targeted households with a lot more disposable incomes and competed with each other to capture these next-gen modern Indians. Today, affordable access to the internet, smartphone penetration and e-commerce have changed everything. With over 530 million internet users, India has the second largest internet user base in the world today. Internet penetration is bridging the gap between consumers residing in tier-I and lower tier cities. For education to be better accessible, several states such as Telangana, Andhra Pradesh, Karnataka, and many others are now working to adopt digital in an impactful way. There is a push from the government as

well to impart education through the digital route to tier 2 and 3 cities. Learning or academics or education broadly has three functions. They are creation of learning content through research, writing; packaging with visuals, dissemination of learning through classes, lectures, notes, self-study, discussions; and assessment and evaluation of the education of the learner by various methods. In a blended form, learners seek education voluntarily and collaboratively. Each lesson or skill or chapter is expected to lead to an outcome, a model, a design, a solution, a performance or an application, either simulated or real life. Education is not to be instructed, but explored organically, not to be imposed but experienced collectively fostering diversity, teamwork and mutual respect. The use information and communication technologies in education can play in crucial role in providing new and innovative forms of support to teachers, students and the learning process more broadly. School education is envisaged as a comprehensive and convergent program committed to universalize digital education across the wide spectrum of schools from pre-nursery to higher secondary classes. The quality of digital education has acquired a new urgency in the present context of globalization.

NEW TECHNOLOGIES IN LEARNING SYSTEM

Augmented Reality (AR) & Simulations

Augmented Reality and Simulations have left a mark in the world of visuals. Today, its great impact has started to control the way students learn and collaborate with their teachers. Augmented Reality claims it is the best way to capture the dreams and imaginations of humans.

Adaptive Learning

Adaptive learning is a technology that provides learning activities to students, based on their needs and learning style/behavior. Consider adaptive learning as a piece of tech which adapts to every student's needs in a short time. It helps students to adapt to unique learning paths that are entirely based on their interests and learning ability.

Artificial Intelligence (AI)

Artificial Intelligence is very well regarded as one of the most discussed technology trends in the world. Due to its smart approach towards various systems, the world has come to trust its technology in its development. Although used in various fields.

Usage of 5G Technologies in Education

5G is the fifth generation of wireless technology. Through its improved enhancements, just about anyone using it can get high speed and low latency wireless technology. Students are more likely to benefit from this unique innovation, as this promises them quick downloads of student files and resources and more powerful networks.

Automation

Automation drives a huge part of the world we live in. Business and economic sectors provide automation to better provide faster experiences as engagement grows.

Competency-Based Education

Competency - based education to be playing a vital role in the system of education. Through this special technology, students get to be matched with learning activities that are for their level of learning ability.

Learning Analytics

Learning is a very broad process and requires efficient tracking and analyzing to better understand results. As an emerging technology, learning analytics is now being used by teachers to better record the learning behaviors of students.

Remote learning and re-thinking of education

In the present situation, rather than developing new content, which takes significant time and expertise, countries focus on curating existing (especially free, 'open') content and aligning it to the curriculum. To prepare for the future, countries should develop short, modular content for distribution over multiple channels, with mobile as a primary channel. Digital content is also the data gathered from learners and the rules or algorithms interpreting that data. A re-imagining of how content is designed should address the unique skills and background of learners in order to provide multiple pathways and opportunities for the students to realize their potential.

The digital share in e-learning

A major challenge for remote learning is rampant inequality in access to technology. Digital content can be distributed across multiple delivery channels and in order to reach all children at scale, education systems must prepare multi-faceted responses leveraging all available technologies – print, radio, TV, mobile, on-line, and print utilizing a combination of these mediums to ensure students are engaged and learning. In order for a mixed mode delivery to become the 'new normal' to reach all students, the stark inequalities in access to the Internet and devices must be addressed. An especially challenging context is countries that are fragile, experiencing conflict or violence (FCV), where evidence shows learning poverty is over 90% with young women disproportionately affected.

Education at its core is a social endeavor and teachers must be empowered to use technologies to engage students in learning. Teacher support and training on use of remote learning technologies and adaptations to pedagogy are essential. A combination of multiple modes of delivery (offline/online/blended) are more likely to be effective with a focus on pedagogy and not just use of technology. As parents and caregivers become an essential point of engagement with students, simply making content available is not enough. Parents must be engaged as partners in the learning process and a responsible actor in a blended learning environment.

Assessment of learning

In the coping phase, traditional evaluation and examination has shown its limitations. Where on-line systems are used, collection of data can give an accurate picture of learning progress. Where students are learning via radio and TV with little interactivity, short quizzes and feedback over mobile devices to teachers may be a strategy employed in some countries to facilitate teacher engagement. Through the combination of digital content, data and algorithms, assessment is adaptive and can continuously provide feedback to learners.

Education technology and its panacea

Though investment in EdTech has been increasing, learning and outcomes as a result have not changed considerably in many countries. Experience to date highlights that

teaching and learning remotely is not the same as face-to-face pedagogy. Many teachers with access to e-content, for instance, use it like any another textbook to read from in class. Some adjustments include shorter and more modular content, more engaging content such as edutainment, continuous feedback, and smaller group on-line discussions on more open-ended questions. Much more attention must be directed on how technology will enhance teaching and learning in a blended learning environment reaching students, both in school and at home.

Government of India Initiatives in e – learning system

To ensure continuation of learning, the Ministry of Human Resource Development (HRD) in India is offering its digital platforms to education institutions and their students. Swayam Prabha (study webs of active learning for young aspiring minds), Diksha (digital infrastructure for knowledge sharing), and e-pathshala are among some digital platforms run by the HRD Ministry for self-learning. These platforms offer e-learning through web and video courses.

Swayam Prabha is an online portal that fosters self-study, offers massive open online courses via tutorials, lectures and discussion forums. It consists of DTH channels that provide quality content for higher education from esteemed colleges. Apart from graduation and post-graduation courses, it also includes 28 course modules developed by NCERT in 12 subjects for classes IX-XII.

Diksha (diksha.gov.in), another portal, provides learning material for the benefit of students, teachers and parents. The website is also available as an app and has received over 55 lakh app downloads so far, having delivered 11.8 crore content sessions and 26 crore minutes of usage. The statement mentioned about e-pathshala that offers educational material for students and teachers through a portal as well as an app, now also available on the UMANG app of the government. The material comes in various formats like audio, video, e-book, flip book and now even in augmented reality format. The portal has 1,886 audios, 2,000 videos, 696 e-books, 504 flip books and 70 augmented reality e-content on class IX and X science textbooks.

Ministry of Human Resource Development has initiated many projects to assist teachers, scholars and students in their pursuit of learning like DIKSHA platform, Swayam Prabha TV Channel, Online MOOC courses, On AIR – Shiksha Vani, DAISY by NIOS for differently-abled, e-PathShala, National Repository of Open Educational Resources (NROER) to develop e-content and energized books, telecast through TV channels, e-Learning portals, webinars, chat groups, distribution of books and other digital initiatives along with State/UT governments.

Digital Learning Tools Today

Digital learning on the go or from distance calls for tech-led holistic solutions requires several content pieces to be transmitted digitally. These content pieces can be in the form of pdfs, ppts, URLs, YouTube links, podcast links, and case-studies. There can also be e-books, audio-books, kindle based content, magzter sourced magazines, etc. Then this can involve learning without being face to face through boxes, as in Google Class, or learning face to face as in Zoom live audio-visual discussions. People may also use GoToMeetings or MicrosoftMeet sessions also. There are other tools that can take

digital go miles ahead. Then there are MOOCs, collaborative distance learning, wikis, blogs etc. Individual resource-rich institutes develop their customized secured and IPR protected Learning Management Systems, through the use of BlackBoard or TCSion LMS. Other LMS options like Kaltura or Impartus allowing video recording of talks also are in use in many places. There are CourseEra courses, Swayam online lessons from UGC and similar other avenues to learn online.

Learning digitally can be further assisted with Virtual Reality (VR), Augmented Reality (AR) and Mixed Reality (MR) which can take the viewer to an enhanced experience even integrating scenarios which are yet to happen creatively bringing them within the learning experience. These are immersive and contextual experiences, and artificial intelligence driven chatbots can further enhance the digital interface of the learner and the mentor.

E-Learning Platform for Students in Tamilnadu

Tamil Nadu e-learning Platform is a customized content repository for students to access and utilize digital resources to improve their learning outcomes.

- ✓ It hosts more than 10,000 E-Learning Contents, 390 Digital Textbooks and 2000+ aggregated YouTube videos in one place.
- ✓ The content is aligned with the updated curriculum and is made available class-wise, term-wise, medium-wise, subject-wise and chapter-wise.
- ✓ Online Practice tests with detailed analysis are available for Government and Government Aided Students preparing for NEET exam.

Tamilnadu Diksha for students and teachers

- All Textbooks are energized with QR codes which provide enriching learning content on TN-DIKSHA enabling students to enjoy and enhance their learning. On this platform, more than 14,000 resources for classes I to XII (Tamil & English medium), over 400 Science experiments, and over 1000 other videos related to the curriculum have been made available.
- A lesson a Day' initiative was also launched through which a link with the content related to a chapter of a subject is shared with students through a cascading WhatsApp network every day. This enables students to revise smaller chunks of content every day consistently.
- The contents can also be viewed through QR codes on Textbooks

Tamilnadu Teachers Platform (TNTP)

- ❖ Tamil Nadu Teachers Platform empowers teachers with training and support material to deliver high-quality engaging content in their classrooms. Each teacher is provided with an individual login to the portal.
- ❖ It is a customized content repository exclusively for teachers of Tamil Nadu to upload, access and utilize digital resources to improve their classroom effectiveness.

- ❖ TNTP hosts more than 10,000 E-Learning Contents, 390 Digital Textbooks, 980+ Interactive Quizzes and 2000+ aggregated YouTube videos in one place. The content is aligned with the updated curriculum and is made available class-wise, term-wise, medium-wise, subject-wise and chapter-wise.
- ❖ For teacher professional development, courses on Spoken English and new textbook training are made available.
- ❖ Teachers are encouraged to build a repository of resources that can be shared and utilized by teachers across the State. All contributed content is curated by a team and the curated content is added to the repository. Teachers who contribute content to the repository are recognized through digital certificates sent to their emails.

Kalvi Tholaikatchi (Television Channel for Students)

KalviTholaikatchi is an exclusive education channel which streams programmes related to state curriculum for teachers and students to access seamlessly. It encourages student learning beyond classroom hours and in the comfort of their homes.

- ❖ During the lockdown, to support the secondary students in their exam preparation, programs for 9th and 10th standard students were aired every half an hour every day.
- ❖ SMS communication was also sent to all the students regarding the programs so that they are informed about the program schedule.
- ❖ It can be viewed in the following cable networks within the State.
- ❖ TACTV - CHANNEL 200
- ❖ TCCL - CHANNEL 200
- ❖ VK DIGITAL (POLIMER) - CHANNEL 55
- ❖ AKSHAYA CABLE - CHANNEL 17
- ❖ The contents of Kalvi TV official channel are also accessible through the YouTube Channel Kalvi TV official.

TNSCERT YouTube channel

TN SCERT YouTube channel hosts around 3390+ videos which cover a wide range of topics related to education. From science practical videos to teaching video lessons, SCERT channel has vibrant resources which can be accessed by teachers and students for continuous learning. TN SCERT videos can be accessed through the YouTube channel whose link is added here.

Facebook – Workplace

TN Schools Facebook Workplace provides a platform for teachers to learn through collaboration and sharing. Teachers can share best practices used in their classrooms, share resources and participate in discussion in different subject oriented groups.

Student Mental Wellbeing in Partnership with UNICEF

Launched a program to support the mental wellbeing of students taking board exams this year amidst the crisis, in partnership with UNICEF. Students can give a missed call

to 9266617888, a toll free number. The students get a call back and can listen to short fun audio clips that help them understand how to cope with the myriad challenges they are going through during this crisis.

Tamil Nadu VagupparaiNokkin (Classroom Observation module)

One of the modules of the TN-EMIS mobile application is the classroom observation module for Block Resource Teacher Educators. This is used to capture the teacher practices, student learning levels and other classroom related data to identify best practices and to improve classroom experience for the students as well as for the teachers.

NEET – Online Practice tests & Crash Course

As a part of the e-Learn portal for students, online Practice tests is offered for Government and Government Aided Students preparing for NEET exam.

- Students are provided individual logins based on their NEET registration numbers. Students can log in, take practice tests and receive a detailed analysis of their performance topic-wise.
- Online NEET crash course is also provided to students from Government and Government Aided Schools. The course contains several hours of video lectures and 6500+ questions covering all topics.

Problems of e-learning system

It is important to reconsider the current delivery and pedagogical methods in school and higher education by seamlessly integrating classroom learning with e-learning modes to build a unified learning system. The major challenge in EdTech reforms at the national level is the seamless integration of technology in the present Indian education system, which is the most diverse and largest in the world with more than 15 lakh schools and 50,000 higher education institutions. Many e-learning players offer multiple courses on the same subjects with different levels of certifications, methodology and assessment parameters. So, the quality of courses may differ across different e-learning platforms.

CONCLUSION

Digital education in India is in its transformational phase and a lot more can be done by all the stakeholders in the education ecosystem – government, EdTech providers, educational institutions, startups, etc. to ensure that digital tools are accessible to every learner in the country. The government runs a very large part of our education system. They must adopt digital education and make the platform, content and methods available to every school. Few state governments must take a lead in demonstrating adoption of digital education to the rest of the country. The education system has primarily followed a teacher-centric (mostly one-way) approach to education. This is the time for all of us to move from teacher-centric physical classroom to student-centric digital glass-rooms. It is an opportunity for us to nurture and develop self-learning behavior in the students. This will broaden their thinking, stimulate curiosity and cultivate a higher level of interest. Thus, whole new set of methods and practices are emerging. They are more interactive, gamified, visually rich, personalized and hands-on. This takes the learning effectiveness to a completely new level. The journey of

digital education in India (and globally) is bound to take a huge leap in the coming years as many have realized the need for digital as an enabler for better education. Though there could be a few roadblocks - mindset change, resistance to changing age-old teaching and learning practices, we believe things will change quickly as academicians, technologists and industries work together to create a strong digital ecosystem for education. We are already seeing many Educational Institutions take the lead in their digital journey.

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