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ENVISIONING FUTURE OF INDIA WITH DIGITAL LEARNING IN THE LIGHT OF NEP-2020

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Abstract

Technology is advancing at a breakneck pace these days, affecting virtually every aspect of our lives. Because of the old educational system's incapacity to meet today's complex needs, which include dynamic and evolving rapidly, education systems worldwide are being forced to make radical changes. The term "digital education refers to using technology, digital content, and instruction in the education system to make it more effective and efficient than the previous traditional education system." Using digital classrooms to supplement and enhance traditional teaching and learning techniques is becoming increasingly popular. Smart classrooms with an audio and visual system and PPT presentations replace conventional classrooms with blackboards.

In the same way, textbooks are being phased out in favour of electronic versions. Consequently, we are shifting away from traditional teaching and learning methods in favour of a more technologically advanced method of teaching and learning: virtual teaching and learning skills. This chapter aims to explain how India's education system has been digitized. With the help of this chapter, an attempt has been made to comprehend the emerging trends in Indian digital education systems that will help shape the lives of our future generations while also addressing the fundamental difficulties of the Indian educational system.

Keywords: *Educational Technology, Digital Education, Indian Education System, ICT, NEP-2020*

INTRODUCTION

Every aspect of modern life is affected by technology, and education is no exception. In various ways, technological advancements in education have had a substantial impact. Higher education is now more accessible than ever before because of technological breakthroughs. Online tools, such as Khan Academy, MOOCs, and podcasts, make it possible for everyone to learn something new, no matter where they are. (Lireza, A. 2022).

Digital Learning is "learning facilitated by technology that gives students some element of control over time, place, path and/or pace." Digital education is concerned with the innovative use of digital technology and resources to teach and learn in a classroom setting and is also known as e-learning or Technology Enhanced Learning (TEL). Digital technology enables educators to create effective learning sessions for students in various courses. The digital education system is concerned with efficiently transmitting both knowledge and skills to students. Digital education has transformed the learning process, making it more mobile,

engaging, and interactive than ever before. Improved digital infrastructure was a top objective in the year union budget (2022-23) after the epidemic revealed India's vast digital divide. Millions of people could not complete their online education because they could not access smart phones, laptops, or stable internet connectivity. Even when hundreds of schools in remote and rural areas remained closed owing to a lack of teaching resources and Covid-19 safety regulations, many students made their way through the woods, through mountains, and along highways just to get online.

The Education Commission convened educators from around the world to examine the best ways to educate every child in the world by 2030 and found that "far-reaching innovation is needed to equip young people with the new knowledge and skills they need for the new economy, to provide education to millions more children effectively and efficiently, and to take advantage of new technology and a new understanding of how children learn."

The way we live and communicate is rapidly changing due to technological advancements. It's reshaping the landscape of every industry and field for the better. On the other hand, education is trailing behind when adopting new technology. Since education can transform our world for the better, technology in education has become even more crucial. Using computers, tablets, smart whiteboards, and other technology in the classroom is becoming increasingly common in educational institutions worldwide.

DIGITAL INITIATIVES TAKEN UP BY GOVERNMENT OF INDIA-

With an eye on future enrollment growth, the "Ministry of Human Resource Development's identified "information and communication technology" (ICT) as a key instructional tool for achieving a 30 per cent rise in higher education enrolment by the conclusion of the 11th Plan period. Several initiatives are nearing completion and are expected to significantly impact the way education and learning are conducted in India.

SAKSHAT: The Ministry also launched a web platform called "SAKSHAT," which stands for "One-Stop Education Portal." SAKSHAT will host "the high-quality e-content" that has been generated in all disciplines and subjects after it has been submitted to the platform.

National Digital Educational Architecture (NDEAR): NDEAR was created in "the Union Budget 2021-22" by the Indian government to develop digital infrastructure and promote education planning initiatives. This initiative is designed to provide unique educational ecosystem architecture for the progress of the nation's digital infrastructure while also ensuring stakeholder autonomy, particularly for states and UTs.

PM eVIDYA Programme: Indian students and teachers will access e-learning through the government's PM eVIDYA programme, launched in May 2020. More than a quarter of a million schoolchildren are projected to benefit from the initiative's goal of bringing together all online and digital education aspects.

DIKSHA: For the first time, students, instructors, and parents will have access to school curriculum-based engaging learning materials through "DIKSHA (Digital Infrastructure for Knowledge Sharing), a nationwide platform for school education." Over 18 Indian languages are supported by the platform, which 35 states and union territories have deployed. Aside from creating customised e-content for students with hearing and visual impairments, the DIKSHA portal will offer "radio/podcasts and QR-coded digital textbooks for students in grades 1-12."

SWAYAM: SWAYAM was developed by the government in 2017 to provide "an integrated platform for online courses" at accessible pricing to all citizens, especially the impoverished. The portal offers Massive Open Online Courses (from Classes 9-12 to Under Graduates and Post Graduates) to provide quality education.

SWAYAM PRABHA: SWAYAM Prabha is a "Ministry of Human Resource Development initiative to distribute 32 High-Quality Educational Channels via DTH (Direct to Home) throughout the country." It has curriculum-based courses in several fields. It makes quality educational resources available in locations where internet connection is still limited.

ePathshala Portal: The ePathshala portal was developed by the government in 2015 as a repository for educational videos, audio, flipbooks, and other materials. In addition to English, Hindi, and Urdu, the portal's resources are accessible via smartphones, laptops, desktops and tablets.

NISHTHA: School administrators and teachers using NISHTHA - Phase II in Financial Year 2021 to develop a curriculum specifically for online delivery. The NISHTHA training programme would train 5.6 million teachers in Financial Year 2022, according to the Union Budget 2021-22.

Virtual Labs: Undergraduate and graduate students in the sciences and engineering can now use virtual labs to supplement their classroom learning by using a virtual pilot lab launched in 2009 and a primary virtual lab launched in 2010 by the Indian government. Learning management systems and numerous study aids like video lectures, digital resources, self-evaluation, and animated demonstrations are available to students in virtual laboratories.

There are also other government-sponsored digital initiatives, such as Shiksha Vani for widespread radio use and the CBSE podcast, as well as content in sign language for the "National Institute of Open Schooling's (NIOS)" YouTube/website and the "Digitally Accessible Information System (DAISY)" for students who are hard of hearing or visually impaired (Free/Libre and Open Source Software for Education).

VISUALISING DIGITAL LEARNING THROUGH THE LENSES OF NEP-

The Ministry of Education's 2020 National Education Policy emphasizes digital and online learning to make education accessible to all Indian children. NEP Policy 2020 promises to reform Indian education and make the country a "Global Knowledge Superpower" by 2030 using technology.

The NEP 2020 pushes all schools and universities to adopt digital and make their curriculum flexible, comprehensive, and multidisciplinary. NEP Policy 2020 suggests the following essential measures to leverage digital technologies for teaching and learning at all levels:

1. **Digital Infrastructure:** The New National Education Policy 2020 recognizes the necessity for open, evolvable, and interoperable public digital infrastructure in education. This infrastructure can help several platforms and point solutions increase device penetration in India.
2. **Online Teaching Tools:** NEP Policy 2020 recommends expanding eLearning platforms to give teachers more tools to track student achievement. The COVID-19 epidemic shows that learning management systems are needed.

3. **Virtual Labs:** The New National Education Policy 2020 recommends using eLearning platforms to construct virtual laboratories, so all students may get hands-on experience. Furthermore, students and teachers require tablets with preloaded material to access online learning.
4. **Content, Repository, and Distribution:** NEP Policy 2020 suggests schools build a digital archive of coursework and play/activity-based learning materials. Learners should also evaluate content quality and efficacy. Apps and games may make learning entertaining in schools.
5. **Blended Learning:** The New National Education Policy 2020 stipulates that schools should prioritize face-to-face learning above digital learning. Thus, efficient blended learning models should be provided for subject-specific replication.
6. **Online Tests:** NEP Policy 2020 advises school boards to create competency, rubric, portfolio, standardized assessment, and assessment analytics frameworks. Online assessments should also teach 21st-century skills.
7. **Teacher Incentives:** The New National Education Policy 2020 requires administrators and teachers to get intensive online content creation training. The new strategy also emphasizes teachers' online content engagement.

ALLOCATION OF BUDGET: MAKING THINGS HAPPEN

The education budget for 2022 has been increased by Rs 11,054 crore to Rs 1,04,278 crore. The school budget for 2022 places a high premium on digital learning and skill development, which is a blessing for the country, as the Covid-19 pandemic has taken a significant toll in this field. Education received the largest allocation in history in the Union Budget 2023 presented by Finance Minister Nirmala Sitharaman on 1st February 2023, totaling 1.12 lakh crore, an increase of roughly 8.2% from the allocation made in 2022-23.

To help children and young people make up for any academic ground they may have lost as a result of the recent COVID virus pandemic, the federal government has announced plans to revamp teacher education, create centres of academic excellence on the district level, and launch a nationwide digital library filled with high-quality resources covering a wide range of subjects. The goal of establishing a national digital library for kids and teens is to increase access to high-quality literature in a variety of formats, languages, and reading levels.

Basic education was severely disrupted in 2020 when schools were closed due to the Covid-19 outbreak. Children's basic reading proficiency has returned to pre-2012 levels, according to the Annual Status of Education Report. This was true across the board, both in terms of location and gender. The administration pledged to establish a national digital university in the most recent Budget.

According to Sitharaman, states would be urged to construct physical libraries at the panchayat level to enable access to the holdings of the national digital library. The budget also announced the establishment of three centers of excellence in artificial intelligence to enable the "Make AI for India" and "Make AI work for India" programmes, underlining the importance of AI in education.

The proposed budget of the Indian government includes financing for a new Digital Skill India platform, which will connect job-seekers with businesses, including micro, small, and medium-sized enterprises, and enable individuals to obtain the formal training necessary to fill vacant

positions. In addition, the emphasis on traditional craftsmen and micro-entrepreneurs as well as integrating them into the MSME chain and providing them with a forward link to their products and craft will have a substantial impact on the rural areas' skill and entrepreneurship growth.

The minister of finance has declared that teacher training will be reconsidered in view of new advancements in education, technology, curriculum transaction, continuing professional development, etc.

For this reason, the institutes of education and training in each field will be strengthened to become "vibrant centres of excellence." The government has launched an online training hub to offer government employees access to continuing education and professional development. Under Mission Karma Yogi, the federal government and individual states are implementing measures to enhance the skill sets of their public servants.

The minister of finance has stated that training teachers would be rethought considerin g new developments in the fields of education, technology, curriculum transaction, ongoing p rofessional development, etc.

The institutes of education and training in each area will be bolstered to become "vibrant insti tutes of excellent" for this reason. The government has released an online training hub to provide government workers with access to ongoing education and professional development. Under Mission Karma Yogi, the federal government and individual states are also enacting initiatives to improve the skillsets of its public officials.

Sitharaman also announced the establishment of one hundred application development laboratories will be established in engineering schools to Karma Yogi work on 5G service application creation in tandem with government agencies, financial institutions, and corporations. Smart classrooms, intelligent transportation systems, precision agriculture, and healthcare applications are just some of the areas that will benefit from the new technical possibilities that are on the horizon, along with the promise of new business models and new employment prospects.

To guarantee a steady supply of qualified workers for cutting-edge medical research and development, as well as high-end manufacturing and production, the Minister of Finance also announced the government's intention to subsidise multidisciplinary programmes in medical device design and development at existing educational institutions. To foster collaborative research and innovation, the ICMR will open up chosen laboratories for use by researchers from public and private medical colleges and the commercial sector. In addition, 157 new nursing schools will be founded alongside the 157 new medical schools that have been founded since 2014.

Within the next three years, the government will hire 38,800 new teachers to staff the 748 new residential schools for the 3.5 lakh indigenous pupils. More than 3.5 million pupils from indigenous communities will be attending one of 740 Eklavya Model Residential Schools over the next three years, requiring the hiring of as many as 38,000 teachers and other staff.

METAMORPHOSIS OF TRADITIONAL EDUCATION WITH TECHNOLOGICAL ADVANCEMENT -

Due to technological advancements, teachers' and students' roles in educational institutions have begun to shift. According to the teacher, students are passive recipients of information in the traditional classroom, which is the primary source. This teaching method has been around for a long time and is still frequently used today in many parts of the world. When students have greater access to information and educational possibilities, they become more responsible for their education. Some educators see themselves as a "guide on the side" when students use technology to collect pertinent information for themselves in many classrooms. Educational institutions across the country are rethinking classroom layouts and using technology to facilitate this shift to promote this new teaching style.

Educational institutions can benefit from modern technologies in various ways, from making it easier for teachers to create lesson plans to allowing students more opportunities for studying working together. Now that smart devices can connect to the Internet and the Internet itself, a new era of education is beginning to emerge, allowing students to learn whenever and wherever they want. As technology continues to alter education, learning designers and educational technology experts will have a critical role in ensuring all students have access to adequate and efficient education, regardless of where they live.

Communication and collaboration have become more accessible thanks to technology. An old-fashioned form of education is when pupils collaborate only with their peers in the same classroom or school facility. Today's technology enables previously imagined new forms of communication and collaboration. View a presentation, read a blog post, look at photographs, send an email to the directly involved person, or even take part in a live videoconference to learn more about the issues. Learning, communication, and collaboration are no longer restricted to the four walls of the classroom thanks to technological advancements.

Using technology to give students more control over their education and make it more relevant to their digital lives is essential to personalise learning for kids. Technological improvements and increased access to information and resources outside the classroom inspire students to develop their problem-solving skills, critical thinking, collaborative abilities, and creative abilities. A desire for learning can be instilled in pupils for the rest of their lives in classrooms where technology has been successfully integrated. By utilising technology in the classroom, new learning and teaching paradigms can be introduced into the classroom through the use of blended learning environments as well as digital tools for formative and summative evaluations.

New technological breakthroughs may give children with new learning opportunities when it comes to children with disabilities. Educators' use of information and communication technology (ICT) allows them to customise their lessons and provide material in formats that are more easily understood by all of their students. Both recorded, and live-action videos can be helpful for people who use sign language to communicate their thoughts and feelings. Braille prints can all make electronic textbooks. Instructional materials in audio forms can be created to make it easier for those who cannot read or write can use the technology and express themselves more efficiently.

CHALLENGES TO BE ACCOUNTED-

Global education is now possible because of technological advancements, but it will cost money and effort to make it a reality. Many sections of the world are still without internet connectivity. One in ten people in the world's poorest countries has an internet connection. According to the World Bank, less than 10% of schools have Internet access globally.

Internationally, access to ICT (information and communication technology) is uneven. Despite developments in technology, many people lack the knowledge and ability to use them.

Although mobile technology has spread to the poorest parts of the world, there is still a lack of skilled workers in the industry. Because of this, many contemporary educational technologies place an overemphasis on skill sets not critical to thriving in the global market.

According to the "Global Business Coalition for Education (GBCE)" research, the skills gap might worsen. "Most new technologies are made for those who already have some access, rather than being designed and deployed in a manner that proactively prioritises the most marginalised. As a result, many initiatives over the last decade have not managed to live up to expectations. Fortunately, more reflective use of technology for education is emerging, with the increasing focus on rigour, learning, and contributing to the evidence base for the sector."

Even if the technology is accessible and people possess e-literacy abilities, there is no guarantee that technology alone will create a high-quality learning environment for all students.

CONCLUSION

New educational possibilities can be made available to everyone thanks to technological advancements. It has the potential to transform education around the world for all ages. Increasing numbers of people have access to mobile phones and the internet, and this trend is expected to continue. Technology opens a portal to the globe and tens of thousands of learning materials. The use of educational technology can help remove the current hurdles to ensuring that all students worldwide have access to high-quality education. Students will expand their horizons and learn more effectively through educational technologies. The higher education and education technology fields should expect dramatic improvements thanks to the Union Budget 2023. In India, a pedagogical revolution could be conducted with the help of digitalization and education. Schools and universities have jumped on the NEP 2020 bandwagon for online education. Although the Digital Edu-infra plan that is part of the NEP has the potential to efficiently complete the rapidly developing transformation that is taking place in education and technology all over the world.

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