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Incorporating Technology in Education: An Evaluation of NEP 2020's Vision for Digital Learning

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Abstract

"The National Education Policy 2020 (NEP 2020)" seeks to use digital efforts to transform education in India. The way ahead is digital education, which uses digital gadgets and technology to provide instruction. Everywhere in the nation, digital education improved the comfort of learners. The internet is having an impact on the whole planet, and the current era is driven by digital technology. Another name for digital education is an e-learning platform. In this study, review the various literature's on NEP 2020's vision for digital learning and explore the importance of digital technology in education. According to its findings, "the National Education Policy (NEP) 2020" represents a significant advancement in India's educational digitalisation, with the goal of closing the digital divide and advancing fair access to high-quality education via technology. Recognising that competent teachers are crucial for successful technology integration in the classroom, the strategy places an emphasis on improving teacher training, building digital infrastructure, and creating high-quality digital material.

Keywords: National Education Policy (NEP 2020), Digital education, or Digital learning, Digital technologies, Digital classrooms, Atamnirbhar Bharat, National Education Technology Forum (NETF), etc.

1 Introduction

Introducing The goal of NEP 2020, a program for reforming the Indian educational system, is to use new technologies and employ digital technology to create a better and innovative method of instruction.

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Aiming for quality and reach across a range of regional contexts, NEP 2020 lays out a roadmap for integrating technology into India's educational system in response to growing awareness of the emerging future of digital learning [1]. The ultimate goal of NEP 2020's modernisation of education is the integration of digital technologies into the teaching and learning process. As such, it seeks to close the gaps in academics and equality by providing students with technology that can be used in a variety of ways to enhance their learning. Through the use of technology in various learning contexts, the policy highlights the need of educating students for a rapidly changing world [2], [3]. Using electronic devices like computers, tablets, and mobile phones to study is known as online learning. As one of the main initiatives of the plan, the main goal of this policy is to create robust digital platforms and systems. In order for people in remote locations to benefit from the recently introduced digital teaching tools, this entails expanding internet coverage and providing devices to pupils in need [4]. NEP 2020 also emphasises creating and using high-quality digital material and implementing innovative teaching-learning strategies to raise student engagement and understanding. Digital learning and the use of digital tools in the classroom are explicitly emphasised in India's National Education Policy (NEP) 2020. The policy recognises the important contribution that technology can make to improving the quality, flexibility, and accessibility of education [5], [6]

A. Need for digital technologies in education

Already, the use of digital technology has become necessary due to the globalisation of education. It was possible to hold lessons, share materials, administer assessments, and oversee the daily operations of educational institutions using online platforms. But these venues were used in a proactive manner [7]. To preserve the system, educational institutions have been forced to transition to online teaching because to the COVID-19 epidemic. This issue might be handled by the developed world. Even Nevertheless, developing countries work very hard to meet this need. During this crucial period, digital technology have been the educational industry's rescuer [8]. The importance of the educational system being internationally linked is highlighted by this global problem. Students may improve professionally relevant abilities, such as problem-solving, thinking structure construction, and process knowledge, with the use of digital technologies. They are also preparing for a more dynamic and unpredictable future in which technology will play a crucial role [9]. Students' success in the workplace will be largely dependent on the skills and traits they acquire. Digital technology and instructional materials improve the classroom atmosphere and make the teaching-learning process more interesting. On top of that, they make it possible for schools to be more adaptable and personalise lessons for each student [10], [11].

B. Digital classroom

Mobile phones, social networking, and multimedia are examples of the technology tools or platforms that are used for education in digital classrooms. The use of digital technology during learning has improved and changed the educational environment of today. Students may learn swiftly and efficiently using digital learning, which uses technology to satisfy the whole curriculum [12]. Teaching through the incorporation of technology is the only emphasis of the digital classroom. Students utilise Chromebooks, laptops, tablets, and other internet-connected gadgets. Instead of having students take notes on what the

teacher has taught, the bulk of the material is delivered to them online via an engaging and interactive platform [13]. In spite of its many components, education is fundamentally a communication medium. New channels of communication have emerged as a consequence of the internet, expanding the possibilities for the dissemination and availability of educational content. These online resources and media facilitate learning. Fig. 1 illustrates some aspects of a digital classroom [14].

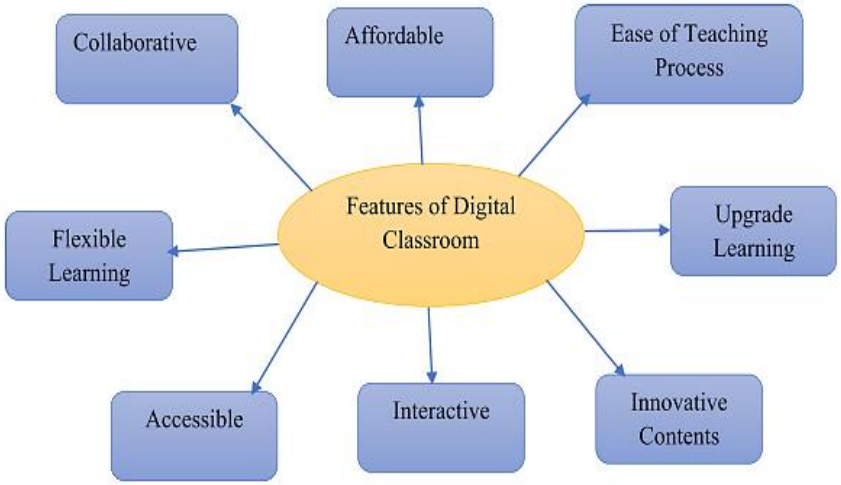

Figure 1 Features of Digital Classroom [14]

2 Literature Review

(Jha et al., 2020)[15] Policymakers might realise and release the nation's intrinsic potential and call for "the Atamnirbhar Bharat" amid the bleak COVID-19 environment. The long-standing demand for a new educational paradigm would be satisfied, according to this article, if "the National Education Policy" allowed for the inclusive use of technology in the classroom and created an independent India. This study analyses the National Education Policy and how it creates an enabling environment for a 'Atamnirbhar bharat' via huge ICT thrust in the form of e-learning. Understanding the school system and the necessity for a 21st-century National school Policy are also discussed.

(Ghosh, 2023) [10] To guarantee inclusive and excellent education for everyone, provide a thorough study of the ways in which technology may be used in education, resolving challenges and extending the reach of current digital platforms and ICT-based educational initiatives. In order to determine the goals that technology may accomplish in the area of education and to examine the suggestions put out by NEP 2020 concerning the incorporation of technology in education, the researcher in this article carried out a study. It also emphasises how difficult it will be to put NEP 2020's ideas for integrating technology into education into practice. The descriptive aspect of this research depends on the examination of qualitative data.

(Malik, 2023)[16] NEP 2020 aims to reform and reorganise the nation's educational system and

framework. In India's educational system, however, the COVID-19 epidemic has brought forth unforeseen difficulties. Colleges and universities have begun using online learning platforms and remote learning. Digital learning has become the main alternative since the educational pattern has abruptly altered. This abrupt change and excessive reliance on technology have not been without its limitations. The NEP 2020 strategy, as anticipated, suggests a number of actions to advance digital learning and improve infrastructural needs. Nevertheless, given India's socioeconomic and geographical variety, there are a number of barriers to accessibility and the potential for broad adoption of online teaching and learning, some of which are covered in this study article.

(Iyer & Kalyandurgmath, 2022)[17] The best way to use and develop the nation's enormous resources and abilities for the good of its citizens, society, the nation, and the world is to provide universal access to high-quality education. The goals of India's future educational system are outlined in "the National Education Policy 2020 (NEP 2020)", which was approved by the Union Cabinet on July 29, 2020. NEP 2020 aims to provide a comprehensive framework for both vocational training and basic through higher education. The current conceptual research article focusses on the preceding two national education policies, as well as the history and development of NEP 2020, its vision, key characteristics, and the use of technology. It also discusses the challenges and its alignment with the promotion of STEM (science, technology, engineering, and mathematics) education.

(Vats, 2024)[5] By using digital technology, NEP 2020 seeks to transform the Indian educational system and improve educational fairness, quality, and accessibility. With the goal of closing academic and equitable inequalities, the strategy places a strong emphasis on modernising education using digital means. Expanding digital infrastructure, creating top-notch digital material, and improving teacher preparation for successful technology adoption are important goals. In order to guarantee equitable and inclusive digital learning environments, the paper addresses the potential and difficulties brought about by NEP 2020, emphasising the need of strong infrastructure, ongoing teacher training, and bridging the digital divide. The research highlights how NEP 2020 has the ability to completely change India's educational system and equip students for a technologically sophisticated future.

(Vats & Malik, 2024)[18] Digital learning aids NEP 2020 by ensuring equal access to excellent education. Improves teaching approaches and helps teachers provide curriculum-aligned information. These gains are offset by infrastructural issues and teacher training needed to employ digital technologies. To achieve NEP 2020's inclusive education objective, several problems must be overcome. Free online courses from SWAYAM democratise education across disciplines and levels. Additionally, virtual laboratories provide hands-on scientific study to supplement classroom instruction. These programs enhance learning and prepare pupils for a tech-driven future. The report recommends NEP 2020 digital learning optimisation options. To maximise digital education advantages, it emphasises ongoing infrastructure and teacher development. NEP 2020 may turn classrooms into dynamic learning centres using digital platforms and tools to ensure every student gets a quality, personalised education.

(Dalal, 2023)[19] An independent organisation called "the National Education Technology Forum (NETF)" need to be set up to promote the free flow of ideas on how to use technology to enhance

instruction, assessment, planning, and administration in both higher education and the classroom. Dhiksha lets users download digital textbooks, NCERT e-content, question banks, and more. Students may transfer credits via the Academic Bank of Credits, which NEP 2020 encourages. Although digitalisation of education is beneficial, it is plagued by a lack of internet access in rural regions, technical issues, the digital divide, environmental infrastructure, and social interactions. Students may overcome these challenges with digital skills, consistent internet, and determination. Future depends solely on digital education. Sharing is beneficial and is cheap, simple, and fair with digital technology.

(Kadge & Jain, 2022)[20] Because education promotes social and economic advancement, a nation must have clear, forward-thinking policies for education at the high school and college levels. A new education policy was recently presented by the Indian government, based on the suggestions of an expert panel headed by "Dr. Kasturirangan, the former chairman of the Indian Space Research Organisation (ISRO)". This essay focusses on a number of technology topics included in the 2020 National Education Policy. The pros and downsides of NEP 2020 are examined, along with a number of innovations and anticipated effects on the Indian higher education system. Finally, a few recommendations are made for its successful use in order to accomplish its goals from a technical standpoint.

3 Conclusion

With the goal of closing the digital gap and advancing fair access to high-quality education via technology, "the National Education Policy (NEP) 2020" is a revolutionary step in India's educational digitalisation. Recognising that competent teachers are crucial for successful technology integration in the classroom, the strategy gives top priority to building digital infrastructure, creating high-quality digital material, and improving teacher training. But addressing the infrastructure, training, and equity challenges is essential to NEP 2020's success in digital learning. India can build a digital learning environment that is inclusive and prepared for the future by making investments in strong digital infrastructure, guaranteeing teachers' ongoing professional development, and granting fair access to technology. The policy also acknowledges emerging technologies like AI, blockchain, and adaptive learning as key drivers of change in education. To sustain this transformation, a monitoring and mentoring framework must be established, ensuring effective implementation. Ultimately, NEP 2020’s vision for digital learning aligns with India’s goal of building a self-reliant and globally competitive education system, fostering universal access, job creation, and skill development.

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