

EXPLORING THE SUCCESSFUL INTEGRATION OF TECHNOLOGY-ENABLED LEARNING IN INDIAN UNIVERSITIES COMPLIANCE WITH THE NATIONAL EDUCATION POLICY 2020

Md Tanweer Alam Sunny*

Amar Vijay Jamnekar**

Dr. Abhishek Singh***

Sheetal Ajay Warankar****

Abstract

The National Education Policy 2020 implements significant educational reforms, focusing on creative education, scientific temper, research excellence, and inclusive learning. It also emphasizes the preservation of our national heritage as well as the reduction of curriculum content. It focuses on Access, Equity, Quality, Affordability, and Accountability. NEP 2020 prepares students for national and global challenges through high-quality education, emphasizing collaboration between teachers and researchers. It also provides insights for higher education, including multidisciplinary learning, institutional autonomy, research promotion, teacher development, technology integration, and governance restructuring. NEP 2020 anticipates a diverse educational landscape that prepares students for a changing world while maintaining academic excellence and future development.

Objective/Purpose

National Education Policy 2020 endeavors to transform the education system by incorporating technology for personalized learning, collaboration, and skill development. The objective of this initiative is to eradicate the digital divide and provide equal access to technology. The present research proposes an in-depth examination of approaches and leading-edge techniques for technology integration in Indian universities, addressing challenges and opportunities while aligning with NEP 2020 goals. The present

* Assistant Professor, School of Law, Sandip University, Nashik, Maharashtra, India.

** Assistant Professor, Department of Management Studies, G H Rasoni University, Amravati, Maharashtra, India.

*** Assistant Professor, School of Law, Sandip University, Nashik, Maharashtra, India.

**** Assistant Professor, Department of Law, G H Rasoni University, Amravati, Maharashtra, India.

paper delves into the NEP 2020 goals and principles, investigates technology-enabled learning in Indian universities, identifies implementation challenges, and provides strategies for successful integration.

Research methodology/approach

The present research is based on an in-depth qualitative analysis of accessible secondary data. By reviewing academic publications, policy documents, and relevant case studies, we gain insights into the current state of technology integration in Indian universities and identify the key challenges faced in implementing technology-enabled learning.

Findings

This study signifies the effective implementation of NEP-2020's multiple exit points. These points not only indicate a student's academic standing but also prepare them for future employment, helping India leverage its demographic advantage. NEP 2020 is promising, aiming to cultivate openness and creativity, while preparing students for technical professions, improving the quality of life, and contributing to the nation's prosperity.

Research implications

Indian universities have the potential to transform educational opportunities through the development of a more readily available and accessible learning environment. The research presented here highlights the significance of aligning with NEP 2020 objectives and guidance for successful implementation. Strategies and recommendations for successfully integrating technology into teaching and learning processes in Indian universities. Predicting the long-term impact and benefits of adopting technology-enabled learning as per NEP 2020.

Originality/value

This research study gives an idea about the different aspects of NEP-2020 and presents a critical evaluation also to underline the inherent limitations and challenges as well.

Keywords - National Education Policy, Higher education, Implementation, Evaluation of NEP.

INTRODUCTION

The Development and Transformation of India's Educational Policy

India is a captivating country, known for its rich traditions, history, and culture. Many of these traditions align with globally recognized principles of education, coexistence, and a shared future. The impact of Aristocratic Nehruvianism and Development on education reveals a historical trend of elitism. Hindu education primarily catered to Brahmin families, while under Mughal and British rule, education favored the wealthy over individuals from higher castes, perpetuating inequality.

Nehru's vision for India emphasized a secular democracy and a state-led command economy. Education incorporated inclusiveness and national pride, promoting harmony among diverse communities. This Nehruvian approach left a lasting impact, especially in fostering a pluralist/secularist mindset and providing subsidized quality higher education for the nation's self-reliance and development. Additionally, policies of positive discrimination aimed to ensure access to quality education for previously marginalized groups.

The Kothari Commission (1964-1966) was established to create an education policy aligned with Nehru's vision. Its aims included productivity, national unity, democracy, and modernization, while emphasizing free and compulsory education for children up to age 14. The commission also addressed language development, equality of educational opportunities, scientific education, eradication of illiteracy, and adult education.

Rajiv Gandhi introduced the National Policy on Education (NPE) in 1986 to address the challenges of the 21st century. Recognizing the limitations of the existing education system, the NPE emphasized the need for change. While the goals of the previous policy were largely achieved, further improvements were needed, such as increased financial and organizational support, to address access and quality issues in the education system.

The National Education Policy 2020

The National Education Policy (NEP) 2020 in India was developed by a committee chaired by Dr. K. Kasturirangan, formed by the Ministry of Human Resource Development in June 2017. Aimed at improving education in both urban and rural areas, the NEP focuses on nurturing students' creative potential and draws inspiration from ancient scholars. Key principles of the policy include flexibility, subject integration, multidisciplinary education, critical thinking, the value of teachers, and a strong public education system.

Technology has the potential to transform education, benefiting both teachers and students. It can help strengthen relationships, improve collaboration, and tailor the educational experience to meet the objectives of all students. By effectively leveraging technology, we can close long-standing equity and accessibility gaps in education. Effective education leaders should work closely with educators to design learning experiences that give students the resources, guidance, and encouragement they need to reach their full potential. Encouraging

collaboration between students and educators promotes ongoing learning and development.

The NEP 2020 is based on five pillars: access, equity, quality, affordability, and accountability. This policy seeks to provide the current generation with the skills and knowledge they will need to face a wide range of current and future challenges, both nationally and globally. The National Education Policy (NEP) emphasizes the use of technology to improve learning experiences and promote greater equity and accessibility in educational institutions. In this context, equity entails giving all students equal access to educational resources, thereby closing achievement gaps and removing barriers to learning. Accessibility is the development of applications, gadgets, resources, and environments that ensure all learners have access to educational content and activities, regardless of their individual learning needs or circumstances.

Indian Education Culture

India's higher education system is one of the largest globally, ranking second in terms of networks. Higher education in India refers to tertiary-level education after 12 years of schooling. The country boasts over 1,000+ universities and 42,000+ colleges, all regulated by the Ministry of Education, delivering exceptional education. The higher education system in India consists of universities, colleges, and various courses. These institutions collaborate with regulatory and accreditation bodies to ensure standardized education. Over the years, both the public and private sectors have contributed to the substantial growth of Indian

higher education. The use of high-quality learning methodologies in Indian institutes empowers students to enhance their visualization skills and fosters creative thinking. Quality higher education is crucial for long-term human development in today's world. It fosters analytical and problem-solving skills, cultivates intellectual curiosity and character, and helps students set career goals. This preparation for professional settings enhances economic, physical, and social well-being.

India's higher education system is undergoing a transformative shift by incorporating cutting-edge innovation and technology. The National Education Policy (NEP) 2020 plays a vital role in this change, aiming to foster inclusive and technology-driven learning. NEP 2020 promotes multidisciplinary education that caters to students' individual aspirations and equips them for future success. India has the world's second-largest educational ecosystem, characterized by a modern and blended learning approach that combines theoretical and practical knowledge. This system ensures that education in India meets global standards. Moreover, the policy emphasizes the internationalization of higher education, facilitating global promotion through initiatives like Study in India and International Students.

The NEP 2020 has provided institutions with enhanced flexibility to design curricula and determine internal assessments, fostering an interactive learning environment for students. The primary objective of the higher education system is to meet global quality standards. India's educational ecosystem, known for its

value and competitiveness, attracts international students. Moreover, recent policies aim to cultivate valuable skill sets in students. With its rich culture, tradition, heritage, and a strong inclination towards creativity and innovation, India stands as an excellent destination for higher education.

Research Objective

This study aims to explore the successful integration of technology-enabled learning in Indian universities, in accordance with the National Education Policy 2020. The research will entail analyzing the current state of technology integration, identifying challenges, proposing strategies for implementation, evaluating their effectiveness, and recommending best practices to enhance the quality of education through technology. The ultimate goal is to support Indian universities in providing high-quality education to students.

Literature Review

Kaur, R., & Ahuja, N. (2023) The 21st century digital revolution has transformed education through Information and Communication Technology (ICT). The National Education Policy 2020 highlights the importance of implementing ICT in educational institutions for fostering creativity, innovative learning, and student-centric self-paced education. This paper explores the barriers and parameters in embracing ICT according to NEP 2020 in the Indian education system, emphasizing the need for further research and proposing suggestions to overcome obstacles like organizational readiness, teacher

preparedness, and student learning orientation.

Muralidharan, K., & Singh, A. (2021) The global expansion of schooling has led to near-universal primary school enrollment, but the focus now is on improving learning outcomes. India, facing challenges in rural areas, is addressing this through the National Education Policy (NEP) of 2020. The NEP emphasizes universal foundational skills and its implementation will have implications for other countries. This review assesses the NEP's approach in light of research evidence for effective school education.

Kumar, K., Prakash, A., & Singh, K. (2021) A robust educational system is necessary to back up developments in science and technology. India responded slowly to the upgradation gap in the education policy and introduced the new National Education Policy (NEP) 2020. This paper explores the contours of NEP 2020, potential execution challenges, and how India should proceed with caution to achieve the objective of providing value to the globe.

Aithal, P. S., & Aithal, S. (2020) The recent introduction of the New Education Policy (NEP) 2020 in India aims to revolutionize the higher education system by implementing innovative measures and assessing their impact. The potential implications and benefits of NEP 2020 are examined, along with suggestions for effective implementation. This research compares and contrasts the numerous policies that have been implemented for the higher education system with the one that is right acumen in existence.

Kalyani, P. (2020) Education plays a vital role in nation-building and shaping the future of its citizens. The impact of education on growth and development can be seen when comparing pre and post-independence eras. The Indian government is introducing the third amendment to the education policy after 34 years, with proposed changes in the National Education Policy 2020. This paper explores the policy's effects on stakeholders and raises awareness of its future impact through social media analysis.

Sarta, A. (2020) The National Education Policy (NEP) is a transformative policy for India's education system, aiming to catch up with global changes and adapt to evolving technology and industrial requirements. NEP 2020, the first education policy of the 21st century, brings much-needed reform after over 35 years. This qualitative study explores the provisions of NEP and its potential to improve education at the school and higher education levels, while also considering the challenges of implementation.

The All India Survey on Higher Education (AISHE) 2020-2021 was recently published by the Indian government's Ministry of Education. This annual survey, which has been conducted since 2011, provides comprehensive data on higher education institutions in India. It includes all institutions that provide higher education across the country.

Enrolling Students

The enrollment numbers in higher education have shown significant growth, with a 21% increase in total students since 2014-15. Female enrollment has also risen, with an

increase of approximately 44 lakh female students and a rise in the proportion of female enrollment. The Gross Enrollment Ratio (GER) has seen an increase, specifically for females, and the Gender Parity Index (GPI) has improved, indicating progress in gender equality in higher education. In the North East States, student enrollment has seen a steady growth from 9.36 lakh to 12.06 lakh between 2014-15 and 2020-21. In terms of distance education, the total enrollment is 45.71 lakh, including 20.9 lakh female students, representing a 7% increase since 2019-20 and a 20% increase since 2014-15.

The AISHE 2020–21 analysis Tamil Nadu, Madhya Pradesh, Rajasthan, Uttar Pradesh, Maharashtra, and Karnataka as the most prominent six states in India pertaining to student enrollment. Undergraduate programs enroll 79.06% of all students, while postgraduate programs enroll about 11.5% of all students. The arts account for the biggest percentage of undergraduate enrollment (33.5%), with science (15.5%), commerce (13.9%), engineering & technology (11.9%), and business (13.5%) adhering to in sequence. Social science (20.56%) is foremost prominent subject amid postgraduate students, with science coming in second at 14.83%. 55.5 lakh students are enrolled in the Science stream, with 29.5 lakh more female students than male students (26 lakh). Of all enrolled universities, 73.1% or 59% are government universities. 21.4% of all colleges are government institutions, which account for 34.5% of registration.

Number of Institutions

The National Education Policy (NEP) 2020 proposes significant reforms for higher education, advocating for a multidisciplinary approach, institutional autonomy, quality research through the National Research Foundation, teacher professional development, technology integration, internationalization, governance restructuring, curriculum diversification, blended learning, reliable assessments, and content in Indian languages.

In India, the higher education sector has witnessed significant growth with a total of 1,113 registered universities, 43,796 colleges, and 11,296 independent institutions. The number of universities and colleges increased in 2020-21, with a 46.4% growth in universities since 2014-15. The number of Institutes of National Importance (INIs) has nearly doubled, and new institutions have been established in Northeastern states. Rajasthan, Uttar Pradesh, and Gujarat have the highest number of universities. Overall, the expansion of higher education institutions has led to improved access for the eligible population.

In India, the states of Karnataka, Telangana, Kerala, Himachal Pradesh, Andhra Pradesh, Uttarakhand, Rajasthan, and Tamil Nadu have the highest concentration of colleges. The districts with the most colleges are Bangalore Urban, Jaipur, Hyderabad, Pune, Prayagraj, Rangareddy, Bhopal, and Nagpur, according to a recent report. Uttar Pradesh has the highest number of colleges, followed by Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Madhya Pradesh, Andhra Pradesh, and Gujarat. Notably, 61.4% of colleges and 43% of universities are located in rural areas.

The National Education Policy (NEP) encompasses specific recommendations for successfully implementing technology and conducting research and development to support learning and whenever used properly, technology can significantly improve teaching practices, accelerating and broadening their impact. Subsequently, as a prerequisite for technology to genuinely revolutionize education, teachers need to demonstrate the knowledge and abilities necessary to fully utilize technology-rich learning settings. Education leaders must come up with a common vision for how technology may be used to fulfill the needs of all students if they are to make meaningful systemic improvements in teaching and learning. This idea needs to be translated into a workable action plan.

The evaluations that can be implemented by technology play a vital role in advancing education. By giving teachers, administrators, families, and students themselves confirmation of their advancement in learning and discoveries, these evaluations can be easily incorporated into digital educational endeavors and minimize complications to class time. To thrive, technology-enabled learning, teaching, and assessment require a strong infrastructure. This infrastructure's key components include high-speed connectivity, easily accessible devices for teachers and students, digital learning content, and comprehensive professional development for educators and education leaders. In order to develop possibilities for career advancement that are in line with state regulations on technology and take into consideration the growing contentedness and usage of

technologies in the classroom, teacher preparation programs, state and local legislators, and educators should work together. Enhancing learning across a variety of courses can be achieved by using technology in teacher education, both before and during their tenure as educators.

Virtual education possibilities and blended learning models in conventional schools have grown in the educational system. Universities and other educational institutions, school districts, educators, and researchers must collaborate to provide practitioners with up-to-date knowledge on adherence supported by research and the most effective ways to use cutting-edge technological innovations for encouraging discovery in virtual and blended environments. Researchers can now reinvent the physical learning environment thanks to technology, creating opportunities for students, teachers, peers, and mentors to build new and better interactions.

New Education Policy 2023: Digital Features

Advancements in technology have led to the integration of digital teaching methods in education. The government's NEP 2023 initiative aims to enhance education through digital strategies. These include:

1. Establishing the National Educational Technology Forum (NETF) to showcase innovative ideas for improving digital teaching methods in various institutions.
2. Creating a nationwide institution to provide additional resources for digital education.

3. Implementing technology integration to enhance classroom processes.

Several Indian states have progressed in their implementation of the New National Education Policy (NEP)

1. In 2021, Karnataka became the first state to issue a directive regarding NEP 2022 implementation.
2. On August 26, 2021, Madhya Pradesh decided to adopt the NEP.
3. Yogi Adityanath, the chief minister of Uttar Pradesh, has announced that the NEP will be implemented gradually.
4. Goa aims to implement the NEP in 2023.
5. Assam, Rajasthan, Andhra Pradesh, and Maharashtra are working on adopting the NEP.
6. Meghalaya's chief minister reported that the state will be the first to completely implement the NEP.

The barriers of NEP

Researchers have identified certain limitations to the NEP 2020 framework, which has the potential to revolutionize higher education in India. These include:

1. The ambitious goal of doubling the gross enrollment ratio by 2035, which necessitates the creation of a new university every week for the next 15 years, presenting a considerable challenge.
2. To effectively deliver the updated curriculum, a substantial pool of competent teachers well-versed in the new pedagogical approach is required.

3. Sufficient funding and resources are indispensable for successful implementation.
4. Given that teachers often possess a disciplinary-centric mindset, finding educators with both exceptional expertise in one area and proficiency in other subjects can be challenging.

The NEP 2020 framework has the potential to revolutionize higher education in India, but certain challenges and limitations must be overcome. These include the need to create a new university every week for 15 years to achieve the goal of doubling the enrollment ratio, the requirement for competent teachers with knowledge of the new pedagogical approach, and the necessity of sufficient funding and resources for successful implementation. Additionally, finding educators with expertise in one area and proficiency in other subjects can be a challenge due to disciplinary-centric mindsets.

CONCLUSION

Educators, policymakers and administrators initiatives should incorporate the aforementioned materials into their teaching methods. By working with families, researchers, and associations for culture, these organizations may eradicate inconsistencies, expand discovering aside from conventional educational institutions, and form powerful collaborations that encourage continuous education. Fortunately, technological advances alone cannot ensure equal access and opportunities for all learners, it has an opportunity to break down previously established barriers. Regardless of ability or

location, all students nowadays have access to resources, experiences, strategies for preparation, and knowledge that were unthinkable a generation ago.

Seamless integration of tools and data systems enables educators to assess student learning progress beyond traditional assessments. Learning dashboards, collaboration tools, and communication platforms facilitate easy connections between teachers and families. Success requires resilient leadership and imaginative thinking from local and state authorities to teacher professionals. Technology facilitates resource sharing, enhanced practices, and communication, guaranteeing that the goal of improving knowledge for every student is shared and accepted by everyone.

The incorporation of technology to enhance education has greatly advanced in the twenty-first century, with many new prospects. The cross-educational alliances necessary to transform technology from an add-on to a core element of our educational system are best illustrated by the relationships that exist concerning programs for teacher preparation and educational institutions. Modern research in the learning sciences is available to educational systems. To make the corpus of research already available more useful and accessible, researchers and educators must work together to develop creative ways to communicate and incorporate the research findings into educators' teaching strategies.

The National Education Policy 2020 aims to address the long-standing gaps in the Indian education system by improving inclusiveness, adaptability, and learner-centeredness. It

emphasizes a comprehensive approach that focuses on skill development, multidisciplinary learning, creativity, and critical thinking. The policy also prioritizes the use of technology and online resources to bridge the achievement gap between urban and rural communities. Additionally, it promotes the establishment of research centers, partnerships, and research networks to encourage innovation and utilize technology in education.

The NEP 2020 is designed to have a positive impact on both students and the education sector as a whole. It aims to promote a holistic and progressive mindset, preparing students for technical careers and enhancing their quality of life. Ultimately, the implementation of the NEP 2020 is expected to contribute to the overall prosperity of the country.

Reference

1. Kaur, R., & Ahuja, N. (2023). Impediments to Adopt Nep 2020 & Integrate Ict in Indian Educational Ecosystem. *European Economic Letters (EEL)*, 13(5), 768-773.
2. Kumar, K., Prakash, A., & Singh, K. (2021). How National Education Policy 2020 can be a lodestar to transform future generation in India. *Journal of Public affairs*, 21(3), e2500.
3. Muralidharan, K., & Singh, A. (2021). India's new national education policy: Evidence and challenges. *Science*, 372(6537), 36-38.
4. Aithal, P. S., & Aithal, S. (2020). Analysis of the Indian National Education Policy 2020 towards achieving its objectives. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, 5(2), 19-41.
5. Kalyani, P. (2020). An empirical study on NEP 2020 [National Education Policy] with special reference to the future of Indian education system and its effects on the Stakeholders. *Journal of Management Engineering and Information Technology*, 7(5), 1-17.
6. Sarta, A. (2020). National Education Policy (NEP 2020): An analytical insights into the reforms it will bring in school and higher education in India. *International Journal of Advance Research in Management and Social Science*, 11(3), 103-113.
7. Swargiary, K., & Roy, K. (2023). *Transforming Education: The National Education Policy of 2020*. LAP.
8. Sunny, B., Shukla, N., Mishra, A. K., & Jaheer Mukthar, K. P. (2024). Addressing the Educational Technology Divide in India: An Analysis of Access, Adoption, and Equity in Digital Learning. In *Information and Communication Technology in Technical and Vocational Education and Training for Sustainable and Equal Opportunity: Business Governance and Digitalization of Business Education* (pp. 103-112). Singapore: Springer Nature Singapore.
9. Pramod, D., & Raman, R. (2021, December). Strategic model for IT investment decision for Indian Higher Education Institution in context of National Education Policy 2020. In *2021 International Conference on Decision Aid Sciences and Application (DASA)* (pp. 517-522). IEEE.
10. Kurien, A., & Chandramana, S. (2020). Impact of new education policy 2020 on higher education. *Atma Nirbhar Bharat: A Roadmap to Self-reliant India*.
11. Dr. S. K. Nayak, Dr. Jaswinder (2023 October) New Education Policy and Its Impact on Higher Education. *International Journal for Multidisciplinary Research* 5(5)