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INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :8.017(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:11(1), November: 2022
Online Copy of Article Publication Available (2022 Issues)
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd November 2022
Publication Date:10th December 2022
Publisher: Sucharitha Publication, India
Digital Certificate of Publication: www.ijmer.in/pdf/e-CertificateofPublication-IJMER.pdf

DOI: http://ijmer.in.doi./2022/11.11.09
www.ijmer.in

IMPLICATION PROBLEMS IN NEP 2020 AND THEIR SOLUTIONS IN THE CONTEXT OF TECHNOLOGY USE AND INTEGRATION

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Abstract: The National Education Policy, 2020 is a comprehensive reform of the education system in India. The law addresses the need for early childhood care, comprehensive education, and curriculum reform. A recurring theme that unites all these issues is how education and technology interact. According to the policy, "extensive use of technology in teaching and learning" will be among the fundamental principles governing the educational system. Education and technology are inextricably linked, and technology plays a critical role in delivering education in difficult circumstances such as the COVID-19 crisis. The Digital India Campaign is assisting in the transformation of the entire country into a knowledge-based society and economy. The development of educational practices and results will heavily rely on educational technology. There is a two-way relationship between technology and education at all levels. Rural India still faces several digital challenges. According to the Government report on November 2019, only 4.4% of rural Indian families have computers, compared to 23.4% of urban households, and 14.9% of rural households have access to the internet, compared to 42% of urban households. Internet users are increasing in rural India, even though mobile phones are practically universally used for access, both in urban and rural areas. National Digital education platforms, including portals, apps, and laboratories, are always being modified to better suit changing educational demands for all categories of students.

Keywords: National Education Policy 2020, Digital India Campaign, Comprehensive Education, Curriculum Reform. Rural India.

1.Introduction

Background: The National Policy on Education from 1986 has been replaced with the NEP 2020. A commission led by former Cabinet Secretary T. S. R. Subramanian began the New Education Policy's consultation process in January 2015. Based on the committee's report from June 2017, a team under the direction of former Indian Space Research Organization director Krishnaswamy Kasturirangan presented the draught NEP in 2019. Later, the Ministry of Human Resource Development produced the Draft New Education Policy (DNEP) 2019, which was then the subject of numerous public consultations. 484 pages made up the T74 Draft NEP **(MHRD 2020)**. When drafting the draught policy, the Ministry engaged in a thorough consultation process, receiving "almost two lakh comments from 2.5 lakh gramme panchayats, 6,600 blocks, 6,000 Urban Local Bodies (ULBs), and 676 districts."

The number of higher education institutions (HIEs) in India, which is a developing liberal nation for educational reforms, is currently at 40,000, reflecting the country's high general fragmentation and much smaller HEIs that are connected to major universities.The NEP-2020 replaced the National Policy of Education in 1986. It is a comprehensive framework that would emphasize primary through higher education in India. The NEP 2020 identifies "extensive use of technology in teaching and learning, removing linguistic barriers, improving access, as well as education planning and management" as some of the driving reasons behind the advancement of the educational system **(Chen 2020)**. In the current pandemic environment, where virtual learning is the new norm, it is even more crucial to reimagine traditional teaching and learning approaches. The Policy presents a vision for the next generation's education that will aid in the growth of an independent India.

By 2030–2022, India is expected to have the third-largest economy in the world, with a projected GDP of $10 trillion. Knowledge resources, not the nation's natural riches, will power the 10 trillion-dollar economy. The current administration made the decision to overhaul the Indian education system by announcing a comprehensive National Education Policy 2020 in order to foster the sector's growth **(Arthur-Mensah 2020)**. This is consistent with the recent appeal from the Prime Minister to use the Fourth Industrial Revolution to propel India to new heights. The recently unveiled National Education Policy 2020 envisions an education system focused on India that directly aids in changing our country into a just and thriving knowledge society through the provision of high-quality education **(Bonini 2020)**.

The strategy states that in order to improve digital content, infrastructure, and capacity building, a separate **e-education unit**, and a **National Education Technology Forum** (NETF) would be established **(https://www.business-standard.com 2020,August 17)**. Artificial Intelligence, Machine Learning, computing tools, and other educational software and hardware will be integrated into education at all levels through NETF in order to enhance classroom procedures, accelerate student progress, aid teacher development,

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and simplify administration and management **(www.education.gov.in 2020)**. Under the new "pandemic conditions," interactive learning has replaced in-person learning experiences, forcing students and teachers to rethink conventional teaching, and learning strategies. The policy's release at this crucial time is significant because it outlines the ideal of education for future generations and will be a key tool in the creation of a society that is "self-reliant."NEP 2020 places a strong emphasis on the value of practical learning **(Baser 2017)**, different learning routes, and resource sharing. Additionally, a focus is placed on flexible topic combinations and technology-enabled teaching starting in grade six. Additionally, it presents a favourable picture of education that is supported by five years of activity-based education and an additional three years of preparation. According to **(Shaikh 2011)**, in order to provide sustainable education for everyone, the majority of countries will be need to invest significant resources in the educational sector.

2. Role of the technology use and integration

1. In order to enable informed decisions and consent, education and ongoing learning will help increase public knowledge of the possibilities and implications of disruptive technologies.
2. Disruptive technologies will be discussed as part of the study of current affairs and ethical dilemmas, and suitable learning resources for schools and continuing education will also be developed.
3. Raising public knowledge of privacy concerns, legal and ethical challenges, and other matters relating to AI-based data processing and protection is essential.
4. Other disruptive technologies that are predicted to alter how we live and, consequently, how we educate students, will be given priority in education. These include technologies related to cleaning and renewable energy, water conservation, sustainable farming, environmental preservation, and other green initiatives.

The NEP 2020 places a strong emphasis on using technology to the youth's advantage in preparing them for the future. But because most schools are not properly set up to accommodate these tools, establishing digital infrastructures such as digital classrooms, remote expertise-driven teaching models, AR/VR tools to bridge gaps in physical education, and laboratory infrastructure is a significant problem. Also, not all schools in the nation may be able to afford the cost of developing digital infrastructure.

Moreover, it is impossible to implement digital learning aids in rural areas of the nation where Internet connectivity is virtually non-existent. The government should therefore focus on enhancing the fundamental infrastructure that will sustain the digital infrastructure inevery area.

Below, I have included some of the key components of the technology policy.

a. India has become digital: The strategy includes investments in digital infrastructure, the creation of virtual laboratories and digital repositories, the development of online teaching platforms and resources, the training of teachers to become high-quality online content creators, the development and use of online tests, and the definition of content, technology, and pedagogy standards for online teaching-learning **(IAMAI-Neilsen 2020)**. The policy asks for the creation of a special department to plan the development of digital technology, digital content, and capacity building for the needs of both school and higher education in terms of e-education.

b. Administration of education: The policy also calls for the creation of an Academic Bank of Credit to digitally record the academic credits students have earned from different HEIs in order to support the awarding of degrees based on cumulative credit accumulation. An intriguing aspect of the policy is its emphasis on utilizing technology to guarantee the calibre and accountability of regulatory bodies, such as the State School Standards Authority and the Higher Education Commission of India, as well as its four verticals, the National Higher Education Regulatory Council, National Accreditation Council, Higher Education Grants Council, and the General Education Council.

c. Education at the primary level: The policy acknowledges the usefulness of technology in supporting instructors, bridging the language gap between teachers and pupils, developing digital libraries, popularising language learning, and assuring broader educational access (specifically for differently-abled children) **(Ghavifekr 2012.)**. The inclusion of coding as a necessary ability for kids to master in school curricula is another suggestion. The policy also encourages the use of online teacher-training platforms and acknowledges that technology may be a helpful instrument in improving teacher education.

d. Higher and professional education: It has stressed the significance of incorporating technology into professional education (legal/health) and using it to hasten the objective of obtaining 100 percent literacy by providing high-quality technology-based adult learning alternatives.

e. Getting accustomed to Artificial Intelligence (AI): The policy emphasizes the need to adapt to the changes brought about by the expanding usage of AI across sectors and recognizes the issues that have developed as a result of its broad use. For the MHRD to formally classify those technologies that call for appropriate responses from the educational system, it has tasked the NETF with

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defining and categorizing emerging technologies based on their "potential" and "estimated timeline for disruption" and submitting a periodic analysis.

3. Challenges of technology use and integration

It must be acknowledged that the NEP 2020 has done a ground-breaking job of incorporating technology into the Indian education system, but this also raises some serious concerns and challenges.

A large portion of rural India remains digitally underserved. According to the results of a government survey conducted between July 2017 and June 2018, which were released in November 2019,
(a) Only **4.4%** of rural Indian households have computers, compared to **23.4%** of urban households.
(b)**14.9%** of rural Indian households have access to the internet, compared to **42%** of urban households **(corporate.cyrilamarchandblogs.com 2020/08/nep-2020-)**
(c) Internet users are increasing in rural India, though access is almost always via mobile phones, both in rural and urban areas.
Students must have sole access to any type of digital technology, such as a smartphone, computer, or tablet, for educational purposes **(corporate.cyrilamarchandblogs.com 2020/08/nep-2020-)**. Most kids from disadvantaged households today, however, have little to no access to technology, the internet, and in some cases, even electricity.The use of technology in the learning process causes students to pay attention to more crucial knowledge acquisition processes. Education can be represented through technology in ways that aid students in understanding contemporary concepts and ideas. India's adoption of technology falls short of expectations. India still has a teething problem with the new educational technologies, despite their early adoption in the system.

Below are a few of the significant issues explained
a. Adequate Resources and Infrastructure: Most of India's educational institutions are in rural areas. Basic issues with energy and quick internet connectivity plague villages. Without the use of energy and the internet, technology cannot function. The biggest threat to India is rural development. The availability of computer gear and software is either insufficient or restricted in rural institutions.
b. Lack of expertise in handling technologically related teaching and learning: It is a pastime for us to hire trainers to educate the teachers. i.e., we need to train teachers before we train students. Many teachers still favour conventional methods of instruction and promote memorization in their pupils. There are still not enough possibilities for teacher training. It is past time to alter teachers' perspectives as well. The biggest issue in the world of education is teaching the millennial generation.
c. Bottom-up approach: Indians have been socialised to accept a top-down approach in many facets of life. This social and educational revolution can only be accomplished through a bottom-up, grassroots initiative. An important step in the overall scheme of things would be to correct and reform the system using a bottom-up approach and immediately effectuate a clear shift in the thinking of the stakeholders, including the office staff and parents. It is vital to move away from "what to think" and toward "how to think."

4. **Conclusion**

Even though the Policy is a ground-breaking, forward-thinking document that acknowledges the invaluable contribution that technology makes to improving learning and teaching, it is crucial to develop a strong action plan for fostering technological proficiency to support successful engagement with technology (and its future advancements) while providing effective safeguards for data protection and data privacy.

In this context, ed-tech companies are particularly well-positioned to support the achievement of a number of objectives outlined in the Policy. By 2022, it is predicted that India's K–12 education technology market would be valued USD 1.7 billion and its post–K–12 education technology market will be worth USD 1.8 billion **(Anil Kumar 2020,June)**. To reach more Indian students, ed-tech businesses should work with educational institutions and provide specialised online platforms and courses **(Laxitha Mundhra 2020,July 31,)**.

Additionally, the Policy offers a sizable chance for collaboration between the many sector stakeholders and regulatory agencies/educational institutions. In this sense, the ed-tech sector and the NETF should collaborate in order to simplify research and allow the NETF to implement industry-led best practises. This recommendation comes from the Internet and Mobile Association of India.

The ways in which the Policy is carried out, how well its goals are incorporated into ongoing projects and how well the appropriate stakeholders are involved in the Policy's effective delivery will all determine its overall effectiveness. The Policy is aware


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that more content will be digitalized and dematerialized in the future of education. This attention is an impressive achievement in of of itself for India's historically traditional educational system.

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