Assessment Practices in the Digital Age: A Comprehensive Review

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Abstract

The National Education Policy (NEP) 2020 in the country brings about a number of paradigm shifts within the educational system, with a specific focus on assessment methodologies. The objective of these modifications is to transition from conventional learning methods that emphasise exams to assessments that are more comprehensive, competency-driven, and ongoing. The following paper provides an analysis of digital learning and its transition from traditional approaches to a digital era via diverse assessment methodologies.

Keywords: NEP 2020, Education, Assessment practice, Ed-tech.

1 Introduction

Without policy education, one could say that a sailor is without sail. Establishing an education policy that provides guidance for the efficient and effective operation of the education system is, therefore, of the utmost importance. The education policy recently implemented in India is expected to bring about a paradigm transformation in the education sector and promote the holistic development of every citizen. NEP 2020 emphasises comprehensive reforms of the Indian education system. The new educational policy encourages comprehensive reforms in both the academic and social spheres of every student. If the goals of NEP 2020 and the new pedagogical framework for all students, including online and hybrid learning, are met, the gross enrollment ratio in the education sector is projected to reach 100% by 2030.

With respect to the ages of 3 to 8, 11 to 14, and 14 to 18 years, the 10+2 curricular structure will be substituted with a 5+3+3+4 structure in accordance with the NEP 2020 emphasis on ECCE.

The PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development) policy outlines several key objectives: prioritising conceptual comprehension, fostering multilingualism and recognising the transformative potential of language in education, utilising technology extensively in teaching and learning, and encouraging regular formative assessment rather than summative evaluation. These efforts aim to position India as a global hub for knowledge. The 2020 New Policy seeks to accomplish an all-encompassing development of human capacities, including intellectual, aesthetic, physical, social, emotional, and moral. Promoting India as a global study centre that offers affordable, high-quality education in keeping with the illustrious history of Indian education.(Choudhary, 2023)

1.1   NEP 2020 and Digital Learning

Working to strengthen the institutional and intellectual capacities of ET, the National Educational Technology Forum (NETF) provides guidance to the federal and state administrations regarding the application of technology in education. Precisely delineate novel avenues for investigation and advancement. In order to accomplish SDG 8, online and digital education constitute the final element of the National Education Policy 2020. Although digital or online learning offers numerous benefits, it is not a viable substitute for conventional classroom instruction. Individuals who possess the capability to consistently magnify and refine content via digital methods, including learners, can benefit from the adaptability and customisation it offers. The proliferation of government initiatives, such as the Digital India campaign, and the rapid increase in internet penetration have created a conducive atmosphere for the transition to digital education.

PM e Vidya, which was recently introduced by Ministry of Human Resource Development, ought to be analogous to the aforementioned. All programmes will be connected to digital, internet, and broadcast education via this countrywide public relations effort. The inclusion criteria extend to online MOOCs on diverse subjects offered through SWAYAM, AIR, TV, and SSEISHA Vani (BSE Shiksha Vani), IITPAL (a platform designed to facilitate exam preparation), and NIOS-developed study materials tailored for students with disabilities. In a meticulous and exhaustive fashion, the MHRD shall distribute and promote every one of these e-learning domains.

The "National Educational Technology" Forum, an autonomous organisation, shall be formed to facilitate the candid interchange of knowledge pertaining to the utilisation of technology in an effort to improve learning, administration, planning, and assessment. The implementation of DIKSHA/SWAYAM and other technology-based educational programmes in K–12 and higher education will be more efficient. Higher education institutions (HEIs) will undergo significant obligations in conducting studies regarding disruptive technologies and creating educational materials and programmes, such as online courses in state-of-the-art disciplines.

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1.2   A Paradigm Shift towards Digital Education

The NEP 2020 is an all-encompassing policy framework designed to prepare students to confront the challenges of the twenty-first century and transform the Indian education system. By fostering critical thinking, originality, and problem-solving abilities, the policy intends to revolutionise education from the perspective of the student. NEP 2020 recognises the capacity of technology to enable individualised and all-encompassing learning and outlines a number of digital education endeavours to realise this objective.

Integration of Technology in the Teaching-Learning Process: NEP 2020 promotes the incorporation of technological advancements into the pedagogical process at all educational levels. This includes the use of online platforms, multimedia resources, and digital tools to enhance and interact with classroom instruction.

National Educational Technology Forum (NETF): The policy suggests the formation of the NETF, an electronic technology (Ed-Tech) industry forum and collaborative platform for educators, policymakers, and knowledge-sharing. The objective of the forum is to assure the efficient implementation of technology within schools and to expedite its adoption.

Online and Blended Learning: NEP 2020 advocates for the advancement of integrated learning and online programmes, which would grant students the ability to obtain a superior education irrespective of their location or geographic limitations. This methodology facilitates individualised educational trajectories and caters to diverse learning preferences.

Digital Libraries and Resources: The policy prioritises the establishment of digital libraries as well as repositories housing open educational resources with the aim of furnishing students with a wide range of learning materials and encouraging independent study.

Teacher Training in Ed-Tech: Acknowledging the critical significance of educators in the realm of digital education, NEP 2020 underscores the necessity for all-encompassing teacher training programmes that focus on the integration of educational technology. This guarantees that educators are proficient in utilising technology to improve their pedagogical approaches.

1.3   The Role of Ed-Tech in Promoting Digital Literacy

Ed-Tech, an amalgamation of the words "Education" and "Technology," pertains to the integration and augmentation of the learning process through the utilisation of diverse technological tools and platforms. With respect to digital literacy as well as NEP 2020, educational technology (Ed-Tech) assumes a pivotal function in enabling students via the subsequent channels:

Access to Quality Educational Content: Educational technology (Ed-Tech) platforms furnish students with an extensive collection of academic materials, including simulations, virtual laboratories, and interactive textbooks as well as video lectures. The plethora of available resources accommodates a wide range of learning preferences and empowers students to investigate concepts through novel approaches.

Interactive Learning Experiences: Through the use of gamified learning modules, assessments, and interactive activities, EdTech tools encourage active learning. These methodologies promote active participation and inspire pupils to assume responsibility for their educational trajectory.

Digital Skills Development: .Digital skills training, encompassing information literacy, security on the internet, data analysis, as well as digital communication, is frequently integrated into ed-tech platforms. Students acquire the necessary competencies to navigate the digital environment in a responsible manner, thereby establishing themselves as responsible digital citizens.

Personalized Learning: An inherent advantage of educational technology is its capacity to deliver individualised learning experiences. Algorithms for adaptive learning evaluate the strengths and shortcomings of students in order to customise course material and tempo accordingly. This guarantees that every pupil obtains the necessary assistance to achieve success.

Collaboration and Communication: Ed-Tech enables students, instructors, and colleagues to collaborate and communicate in a streamlined fashion. By utilising online discussion forums, video conferencing, as well as virtual classrooms, students are able to transcend geographical barriers and collaborate on projects, as well as exchange ideas.

Enhancing Teacher Effectiveness: Educational technology tools have a dual impact, benefiting students and educators. By employing data analytics, educators have the ability to track student development, pinpoint areas that require enhancement, and deliver timely interventions. Moreover, because administrative duties are streamlined by Ed-Tech, instructors are able to devote more time to instructional design as well as classroom participation.

Bridging the Digital Divide: Ed-Tech has the potential to play a crucial role in narrowing the digital divide through the provision of equal educational opportunities. Online learning has the potential to mitigate educational disparities by enabling students in remote and underserved regions to engage, provided they have access to affordable devices as well as internet connectivity.

1.4 Assessment practices in the digital age as outlined in NEP 2020

1. Holistic and Multidimensional Assessment

NEP 2020 emphasises a transition from summative, term-end examination-centered assessments to continuous, comprehensive formative evaluations. The purpose of these evaluations is to measure the comprehensive growth of kids, including the cognitive, emotional, and psychomotor aspects.

Formative Assessments: These are administered continuously during the learning process in order to furnish students and instructors with ongoing feedback. Quizzes, assignments, group work, as well as peer evaluations are all techniques.

Summative Assessments: Although these remain in existence, they have been reconceptualized to assess critical reasoning abilities rather than rote memorization.

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2. Competency-Based Assessments

The policy promotes the implementation of competency-based evaluations that assess students' comprehension and practical implementation of acquired knowledge. This strategy is predicated on:

Learning Outcomes: Assignable, quantifiable, and discernible results that pupils are expected to accomplish by the conclusion of every grade.

Skill Development: Critical thinking, problem-solving, ingenuity, and digital literacy are emphasised.

3. Use of Technology in Assessments

NEP 2020 promotes the utilisation of technology as a means to augment assessment methodologies. This consists of:

Digital Tools and Platforms: The implementation of online platforms to administer examinations, exercises, and additional types of evaluations. Analytics and immediate feedback are capabilities of these instruments for monitoring pupil progress.

Adaptive Assessments: AI-powered evaluations that adjust to the comprehension level of the pupil by delivering customised inquiries and assignments.

E-Portfolios: Digital portfolios serve as a platform for students to accrue and exhibit their work, thereby mirroring their academic progression and accomplishments.

4. Continuous and Comprehensive Evaluation (CCE)

NEP 2020 reexamines the notion of Continuous as well as Comprehensive Evaluation in order to guarantee its efficient implementation:

Continuous Evaluation: Consistent evaluations conducted throughout academic year, not solely during the final terms.

Comprehensive Evaluation: Incorporating diverse dimensions of growth, including scholastic pursuits, extracurricular engagements, and socio-emotional competencies.

5. Peer and Self-Assessment

Promoting peer and self-evaluation aids in the cultivation of self-control, analytical reasoning, and introspective behaviours among students. This procedure consists of:

Peer Review: Students providing constructive criticism on one another's work.

Self-Assessment: Students identify their own assets and areas requiring development as they assess their own performance.

6. Examination Reforms

Significant changes to entry and board exams are suggested by NEP 2020 to bring them into line with the new evaluation philosophy:

Reduced Pressure: Exams have been modified to alleviate students' workload, and multiple attempts are permitted to facilitate progress.

Modular Examinations: Subject selection and exam scheduling flexibility.

Integration of ICT: The implementation and assessment of examinations may incorporate "Information and Communication Technology" (ICT) to promote efficiency and transparency.

7. Teacher Training and Capacity Building

In order to execute these novel assessment methodologies, NEP 2020 underscores the necessity for:

Professional Development: Constant teacher training programmes familiarise instructors with contemporary assessment methodologies and digital resources.

Assessment Literacy: Facilitating educators' comprehension of competency-based and formative assessments so that they may devise and execute efficacious assessment methodologies.

8. Policy Support and Infrastructure

Infrastructure as well as administrative support are emphasised in the policy as crucial elements that ensure the successful execution of the following assessment practices:

ICT Infrastructure: In institutions and colleges, adequate technological infrastructure is required.

Policy Framework: To guarantee consistent and equitable assessment practices, educational authorities and government entities must provide support and establish clear guidelines.

2 Literature Review

(Aithal & Aithal, 2020) A nation must have a well-defined and forward-thinking education policy at the secondary and tertiary levels, as education is the engine of economic and social development. In order to optimise effectiveness, various nations implement distinct education systems that take into account their respective cultures and traditions, as well as distinct phases of development at the secondary and tertiary levels. The Education Policy recently unveiled by the Government of India is a product of the recommendations put forth by an expert committee presided over by Dr. Kasturirangan, a former chairman of Indian Space Research Organisation (ISRO). This paper examines and contrasts a number of higher education system-announced policies with the system that is presently in effect. An examination is conducted of the merits and anticipated ramifications of NEP 2020 upon the higher education system in India, in addition to a range of innovations. Finally, a number of recommendations for its successful execution in order to accomplish its goals are provided.

(S & Praseeda, 2020) This paper undertakes an examination of Indian National Education Policy 2022 (NEP) within Higher Education in relation to its international standing, drawing inspiration from the educational policies implemented in countries such as Australia, China, Germany, and Singapore. NEP 2020 supports comprehensive development by employing a multidisciplinary approach that incorporates

digital learning, curriculum and course autonomy, advanced technology, business acumen, and global education.

(Madheswari, 2021) India has historically made significant and praiseworthy advancements in the domain of education. Since the introduction of the modern education system by Macaulay within the 20th century, Indian education has been influenced by his ideas. All modifications and reforms to education policy were founded exclusively on Macaulay's system. The National Education Policy, 2020 endeavours to overhaul the entire educational system, including research studies and early childhood education. In this age of technological predominance and the global transition to a digital environment, the education system requires an immediate and profound transformation. Furthermore, the discrepancy identified in the academic achievements of prestigious establishments in comparison to other establishments, as well as the global standing of Indian universities, requires an overhaul of education system.

(Kamaldeep & Sarna, 2021) In the midst of significant upheaval in the education sector caused by the "Fourth Industrial Revolution" and COVID-19, the Government of India's Ministry of Education issued the National Education Policy – 2020 (NEP-2020) on July 29, 2020, with the endorsement of the Union Cabinet. The NEP-2020 outlines the overarching vision for the future education system in India, which revolves around the principles of perseverance and self-reliance. With a distinctive multidisciplinary approach and a great deal of flexibility regarding credit transfers, curriculum, skills, and access, the NEP-2020 is more student-centric. This paper examines a number of praiseworthy advantages proposed by NEP, including structured pre-schooling as well as an early start to learning, the universalization of inclusive education, and a paradigm shift from memorization to active learning.

(Muralidharan et al., 2022) The "democratic welfare government" is equally committed to quality-oriented, impartial, and equitable education as it is to the establishment of educational institutions that serve as the foundation for universal education. SDG 4 of the Global Agenda, in fact, aims to improve quality of life and standard of living by guaranteeing quality and continuous education for all, regardless of geographical location, ethnic origin, religious affiliation, skin tone, or social class, among other factors. Consequently, India is highly motivated to achieve international objectives, and more significantly, this is due to the government's imperative to complete the reform of its education system in light of the profound economic, social, as well as scientific transformations that have occurred over the past two decades. The result of deliberation and analysis among various actors involved in social development regarding these intricate matters was the implementation of a policy initiative known as the "New Education Policy 2020".

(Sheeraz Ahmad Sheergugri & Malkeet Raj, 2022) As the primary engine of social and economic growth, it is common knowledge that every nation must have a predicated, forward-thinking, and precisely defined education policy. In consideration of their unique cultural and traditional backgrounds, various nations have implemented diverse educational systems. The "New Education Policy 2020" , recently unveiled by the Government of India, aims to foster a vibrant and equitable knowledge society in a sustainable manner through the provision of high-quality education for all citizens. It is a commendable

measure that will transform the education system in India into one that is contemporary, progressive, and equitable, thus bringing about a paradigm shift. New realities and conditions necessitate novel initiatives. In light of the recent surge in epidemics and pandemics, it is imperative that we remain prepared with alternative means of imparting high-quality education in situations where conventional and face-to-face methods are impracticable.

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(Swarup Das, 2023) This study examines the relationship between digital education, the psychological resilience of students, and their emotional health in the setting of higher education institutions. The paper specifically examines the resolution of mental health concerns among students and evaluates the effectiveness of National Education Policy of 2020 to create an educational environment and climate that promotes students' cognitive development and well-being. The detrimental impact of technology proliferation among students enrolled in higher education institutions (HEIs) on their mental resilience as well as emotional well-being is indisputable. Compulsive behaviours, anxiety, and depression, among others, are exacerbated by excessive digital screen time; nomophobia, or the fear of using a mobile device, further exacerbates these negative effects.

(Choudhary, 2023) The educational system in India has undergone substantial reforms and modifications under the National Education Policy 2020, which has placed an especially heavy emphasis on digital learning. In this research paper, effects of NEP 2020 upon digital education and learning in India are examined. The article provides an analysis of the pedagogical modifications required for successful digital learning. Additionally, it examines the key elements of NEP 2020 concerning digital education, along with the prospects and obstacles it presents. Furthermore, it assesses the integration of educational technology into the implementation of the policy and provides suggestions on how to accomplish this effectively. Policies should prioritise critical initiatives such as managing network and power disruptions, preventing unethical behaviour, and ensuring a secure online environment, according to the study. However, implementing ICT within remote areas is not without its challenges, which include inadequate internet connectivity, inadequate infrastructure, and restricted device access. India is a global leader in the IT sector and other innovative domains, including the implementation of ICT in education.

(A.Jagadeeshwaraiah, 2023) On this day, 73 years after gaining independence, India continues to strive for universal or 100 percent literacy. It is imperative to contemplate the vision and objectives that were established for an independent India. The overarching goal is to achieve equality in education as a nation. This demonstrates that India's educational system requires development. Dr. K. Kasturirangan, an

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eminent scientist, presided over the implementation of new national education policy in the midst of the ongoing pandemic. By ensuring that every citizen has access to a high-quality education, National Education Policy directly contributes to the nation's slow but steady transformation into a thriving, equitable knowledge society. The Union Cabinet of India approved new National Education Policy on July 29, 2020. This policy establishes a comprehensive framework encompassing vocational training and elementary education, all the way up to higher education, in both rural and urban areas of India.

(B & N, 2024) The educational system in India is a fusion of modernity and tradition, contending with obstacles while adapting to the requirements of an ever more dynamic global landscape. Furthermore, it embodies a variety of pedagogical approaches that reflect the nation's abundant cultural legacy. An essential aspect of it is the establishment of a competitive atmosphere, which promotes scholarly rigour. Nonetheless, this frequently places students under tremendous stress, which negatively impacts their mental health. There are times when the prioritisation of academic performance diminishes the significance of practical abilities and comprehensive growth. Notwithstanding its difficulties, the education system in India possesses a resilient framework. Furthermore, endeavours such as National Education Policy 2020 endeavour to overhaul the system by emphasising curriculum flexibility, multidisciplinary learning, and skill-based education; this represents a turning point in the educational milieu of India. The rationale behind its implementation is multifaceted, mirroring the country's ambitions to establish an education system that is both inclusive and competitive on an international level. The purpose of the study is to emphasise the significance and function of the national education policy in establishing the education system in India.

3   Conclusion

The papers presented have illustrated the transition to the digital age as outlined in NEP 2020, the role of educational technology in fostering digital literacy to ensure that every learner is a proficient individual, and the policy's implementation of diverse assessment methodologies to achieve this objective. By utilising the Digital India Campaign, the nation is undergoing a comprehensive metamorphosis into a knowledge-based economy and digitally empowered society. The integration of technology into education will be essential for enhancing both educational processes and outcomes. Digital education constitutes the final element of the 2020 National Education Policy.

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