Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 5 Issue 4 (2025)

A Policy Review on NEP 2020's Vision for Online & Blended Learning Models for Digital Transformation in Indian Classrooms

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Abstract
The NEP 2020 signifies a fundamental transformation in Indian education, prioritizing comprehensive reform that includes blended and online instruction. Digital transformation is crucial, particularly in the post-COVID context. The policy proposes multiple measures (equitable access, teacher training, infrastructure, content development); yet, practical execution may encounter obstacles. This article seeks to evaluate the implementation of NEP 2020's concept at certain institutions. This paper analyzes the National Education Policy (NEP) 2020's strategy for online and mixed learning methods to promote digital transformation in Indian classrooms. This article analyzes perception, readiness, and policy-practice gaps using data from 137 respondents across four institutes (two urban and two rural) in the Delhi–NCR region. The primary objectives are to evaluate (1) the preparedness of institutions and educators for the execution of online and blended learning, and (2) the degree to which the stipulations of the NEP 2020 policy are manifested in practice. The study used descriptive statistics, chi-square testing, and regression analysis to reveal that, despite high knowledge of NEP 2020 among institute heads and teachers, there is a notable deficiency in infrastructural readiness and pedagogical adaption. The implications for policy execution and recommendations are examined.

Keywords : NEP 2020, Online Learning Model, Blended Learning Model, Digital Transformation, Indian Classrooms, Policy

Introduction
The National Education Policy (NEP) 2020 signifies a pivotal change in Indian education, aiming to transform the system into one that is more comprehensive, adaptable, and attuned to the demands of the 21st century (Debnath, et al., 2024). The policy strongly emphasizes the digital transformation of classrooms, acknowledging that online and mixed learning models may greatly enhance access, improve quality, and promote lifelong learning. This vision has gained particular significance following the COVID-19 epidemic, which disrupted traditional teaching and learning methods and forced institutions across to rapidly implement digital and hybrid alternatives.
The NEP 2020 delineates measures to guarantee equitable access to digital education via the enhancement of infrastructure, professional development for educators, the production of superior

digital content, and the advancement of inclusive practices for marginalized students (Prashant, S., 2022). It emphasizes the potential of blended learning as a method to integrate the advantages of in-person interactions with the flexibility of online platforms, thus reconciling quality with accessibility. By conceptualizing these improvements, the policy corresponds with international educational trends wherein technology-driven pedagogy is increasingly pivotal to student involvement and skill enhancement. Implementing this ambitious ambition at the grassroots level presents numerous problems. Challenges such as disparate internet access, a lack of digital devices, inadequate teacher readiness, and administrative deficiencies frequently obstruct effective implementation, especially in rural and underprivileged areas. Urban institutions exhibit a heightened propensity to adopt mixed models, but rural institutions persist in facing infrastructural and socio-economic obstacles. This highlights a significant disparity between policy and practice, as the principles of NEP 2020 may not consistently manifest in classroom environments.

This study aims to critically evaluate the implementation of NEP 2020's vision for online and blended learning models by analyzing four selected higher education institutions from both urban and rural settings. The study, comprising 137 participants, including institutional leaders, faculty, and administrative personnel, offers insights into institutional readiness, perceived obstacles, and prospective strategies for addressing existing deficiencies. This study aims to ascertain if the blended learning provisions of NEP 2020 are facilitating inclusiveness and innovation within the digital transformation agenda or if systemic impediments remain prevalent. This work contributes to scholarly discussions on the efficiency of educational policy, especially in developing nations such as India, where the digital gap is a significant issue. The results are anticipated to guide politicians, institutional leaders, and educators with the strengths and weaknesses of existing implementation initiatives, while also proposing actionable recommendations for realizing the true intent of NEP 2020.

Concept: NEP (2020)

The National Education Policy (NEP) 2020 represents a significant overhaul in the Indian education system. It seeks to establish a comprehensive, adaptable, and interdisciplinary learning environment. It prioritizes conceptual comprehension, critical thinking, and creativity rather than the memorization of information. In order to match education with the cognitive growth phases of children, the policy offers a new school structure called 5+3+3+4. It also places an emphasis on the use of the mother tongue or regional language as the medium of instruction until the fifth grade in order to promote basic learning. Additionally, the National Education Policy 2020 emphasizes teacher empowerment, digitally mediated learning, vocational education, and higher education that is based on research. In general, its goal is to provide an educational framework for India in the twenty-first century that is inclusive, equitable, and competitive on a worldwide scale.

Concept: Online & Blended Learning Models

Online and blended learning models signify innovative strategies in contemporary education, aimed at merging technology with conventional teaching methods. Online learning denotes entirely digital instructional methods wherein learners obtain study materials, lectures, and

assessments via internet-enabled platforms, frequently without the necessity of actual classroom attendance (Kumari, et al., 2024). This methodology provides flexibility, scalability, and accessibility; yet, it relies significantly on stable connectivity and learner self-discipline.

Blended learning integrates online training with in-person classroom interactions, seeking to capitalize on the benefits of both modalities. It enables students to connect with digital resources at their own pace while still receiving direct teacher direction, peer interaction, and collaborative learning experiences in real environments. Academics emphasize that blended learning cultivates a student-centric atmosphere, accommodates varied learning preferences, and improves digital literacy. Worldwide, blended learning models have developed through diverse frameworks, including the flipped classroom, in which instructional content is reviewed online at home, while classroom time is allocated for problem-solving and debates. Models such as rotation, flex learning, and enriched virtual learning offer adaptable frameworks for incorporating technology into educational practices.

The National Education Policy (NEP) 2020 in India has identified online and blended learning as essential tools for facilitating digital transformation in educational settings. The policy emphasizes the necessity for digital infrastructure, enhancement of teaching capabilities, and adaptability of the curriculum to successfully execute these models. In varied socio-economic circumstances, blended learning serves as a conduit between digital innovation and equity, guaranteeing that technology enhances rather than supplants classroom interaction. Consequently, online and blended learning models signify not just technology advancements but also a fundamental transformation in educational delivery, promoting inclusivity, flexibility, and lifelong learning in accordance with the objectives of NEP 2020.

Review of Literature

Sharma (2021) executed an extensive investigation into teacher preparedness for online and mixed learning inside Indian higher education. The study emphasized that educators' competencies, confidence in utilizing technology, and favorable dispositions towards digital pedagogy are crucial for its implementation. Educators with prior training in ICT or experience in digital classrooms demonstrated a markedly greater willingness to use blended methodologies. The study emphasized the importance of continuing professional development, indicating that short-term courses frequently do not result in sustained skill improvement. Sharma contended that institutional support, including mentorship, peer-learning opportunities, and access to contemporary teaching resources, is crucial in determining preparation. The research determined that readiness included not just access to technology but also the motivation, perspective, and pedagogical adaptability of educators.

Gupta and Rao (2022) conducted a comparative analysis of urban and rural institutions to examine infrastructure barriers in the implementation of blended learning. Their findings revealed that metropolitan institutions possessed superior access to high-speed internet, digital devices, and reliable electricity, whereas rural equivalents persisted in facing fundamental infrastructural shortcomings. In numerous rural institutions, even when computer laboratories were present, they frequently proved to be obsolete and insufficiently maintained. The research highlighted that

infrastructural deficiencies directly affect instructor confidence, student participation, and the overall viability of digital projects. Gupta and Rao emphasized that without addressing the urban-rural divide, the objective of NEP 2020 for equitable access to integrated learning would remain unfulfilled. They determined that infrastructure is fundamental to digital change, and its lack undermines even the most well-intentioned policies.

Samuels (2023) examined the disparity between the awareness of NEP 2020 provisions and their implementation in Indian classrooms. The study examined educators and administrators in several states and discovered that, although the majority of respondents were acquainted with the principal policy issues, their implementation in classroom practice was variable. Numerous educators acknowledged their deficiency of training or resources necessary to reform their teaching in accordance with NEP recommendations. Furthermore, Samuels noted that institutions frequently documented compliance superficially to satisfy policy mandates, however the execution inside actual teaching and learning processes was, at best, incomplete. The disparity was attributed to inadequate monitoring systems and a deficiency of incentives for educators to implement novel approaches. The study indicated that closing the policy-practice gap necessitates not just awareness enhancement but also ongoing capacity development, financial support, and robust accountability mechanisms.

The Government of India (2020), under the National Education Policy, prioritized digital transformation by designating online and blended learning as essential reform sectors. The strategy delineates the necessity to enhance digital infrastructure nationwide, augment teacher capacity via ongoing professional development, and promote the use of adaptable curricula conducive to blended learning. It emphasizes the significance of equal access, acknowledging the digital gap as a critical issue, especially for rural and underprivileged populations. Moreover, NEP 2020 promotes the incorporation of developing technologies, the production of superior digital material, and the establishment of comprehensive assessment systems for online education. The policy establishes a comprehensive framework that presents digital transformation not only as a reaction to global trends or crises such as COVID-19, but as a long-term structural reform in Indian education. The text acts as a strategic framework for institutions, educators, and politicians to envision the future of education in a digitally enhanced India.

Methodology Adopted

This study employed a descriptive-analytical survey design deemed suitable for gathering both descriptive trends and analytical insights into the implementation of NEP 2020's vision for online and mixed learning. The study population comprised higher educational institutions, and a selective sample method was utilized to pick four institutes. Among these, two were situated in metropolitan locales and two in rural locations, so guaranteeing representation of divergent circumstances. A total of 137 respondents participated in the survey, comprising 100 faculty members, 15 institute heads, and 22 administrative workers, thereby encompassing various institute management professional views. Descriptive statistics (mean, standard deviation), Chi-square test for association, and regression analysis for prediction. Both primary & secondary data has been used for this research. This report provides an examination of NEP 2020's vision with regard to the implementation of blended and online learning approaches in classrooms throughout

India. It examines how these digital approaches may alter teaching and learning by increasing the quality of education, as well as the accessibility and participation of students.

Research Objectives & Hypothesis

- Obj. 1: To assess the readiness of institutes (infrastructure, faculty capacity, digital content) for implementing online & blended learning in line with NEP 2020.
- Hypo. 1 (H_1): There is a significant association between institute location (urban vs. rural) and readiness for online and blended learning.
- Obj. 2: To determine the extent to which policy provisions of NEP 2020 are being reflected in practice by teachers (pedagogical adaptation, content usage, student engagement).
- Hypo. 2 (H_2): Higher teacher awareness of NEP 2020's online/blended learning provisions predicts higher pedagogical adaptation.

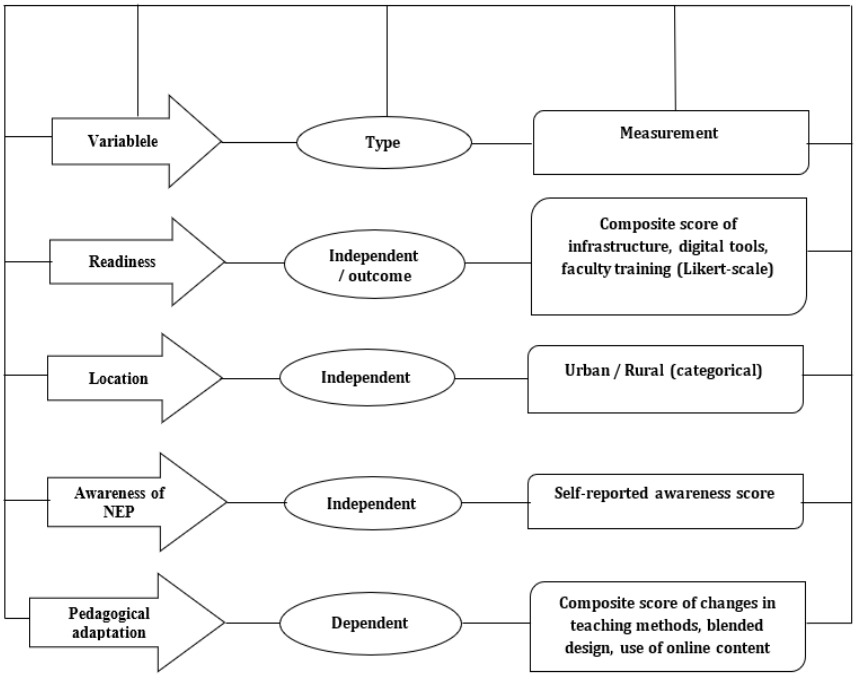

Figure 1: Model to identify Variable Type

Data Analysis & Results Discussion

Table 1: Demographic Category of Respondents

Variable (s)	Categories	Freq. (n = 137)	Percentage (%)
Gender of Respondents	Male (M)	72	52.60%
	Female (F)	65	47.42%
Age of Respondents	Below 30 yrs	28	20.41%
	31–40 yrs	52	38.01%
	41–50 yrs	40	29.23%
	50+ yrs	17	12.40%
Designation/ Profiles	Faculty	100	73.03%
	Institute Heads/Directors	15	10.90%
	Admin.Staff	22	16.12%
Type of Institute	Urban	75	54.70%
	Rural	62	45.31%
Experience of Teaching	Less than 5 yrs	31	22.60%
	6–10 yrs	49	35.80%
	11–15 years	36	26.31%
	More than 15 years	21	15.33%

Table 2: Descriptive Statistics

Variable	N (Freq.)	Mean Values	Standard Deviation Values	Minimum (Min.)	Maximum (Max.)
Readiness - Score (institute)	137	3.121	0.780	1.200	5.000
Awareness of NEP (2020)	137	4.250	0.641	2.000	5.000
Pedagogical Adaptations	137	3.000	0.850	1.000	5.000

Table 3: Testing of Hypo. (1)

Location	Low Readiness	High Readiness	Total
Urban-Institutes	31	44	75
Rural- Institutes	36	26	62
Total	66	71	137

Hypo. 1: *There is a significant association between institute location (urban vs rural) and readiness.*

We classify readiness into two categories: High Readiness (score ≥ 3.5) vs Low Readiness (score < 3.5).

Chi-square test ($\chi 2$) – Formula : $\chi 2=\sum(O-E)2E\backslash chi^2 = \backslash sum \backslash frac\{(O - E)^2\}\{E\}\chi 2=\sum E(O-E)2$
Calculated value of $\chi^2 = 5.12$, degrees of freedom = 1, $p = 0.023$.

Given that $p < 0.05$, we reject the null hypothesis. A notable correlation exists between geographical location and preparedness for online and mixed learning. Urban institutions are more inclined to indicate elevated readiness compared to their rural counterparts.

Table 4: Regression Analysis- Testing of Hypo. (2)

Model	Unstandardized Coefficients (B)	Standard Error	Standardized Coefficients (Beta)	t	p-value
Constant	0.850	0.45	—	1.890	0.061
Awareness of NEP	0.521	0.10	0.621	5.201	< 0.001

Hypo. 2: Higher awareness of NEP 2020's online/blended learning provisions predicts higher pedagogical adaptation

Dependent variable: Pedagogical Adaptation Score; Independent variable: Awareness Score

Awareness of NEP is a crucial positive predictor of pedagogical adaptation (Beta = 0.621, $p < 0.001$). Pedagogical adaptation increases by approximately 0.521 units on the 5-point scale for every single unit increase in awareness.

Discussion

- The study verifies that the location of an institution (urban versus rural) is a factor that determines its preparedness; institutions located in urban areas are better equipped in terms of faculty training, infrastructure, internet access, and devices.
- There is a clear correlation between the extent to which teachers are familiar with the NEP 2020 policy and their willingness to adjust their instructional approaches. Adaptation, on the other hand, is only mediocre (mean ~3.00/5) among those who have a high level of awareness, which indicates that there are deficiencies in implementation.
- The year 2019 saw the release of the first season, which was made up of six episodes.There may be additional impediments that are not related to the two primary variables, such as budget limits, reluctance to change, student access to devices, and so on.

Findings of the study

1. A significant majority of those who responded—including teachers and department heads—demonstrated a strong familiarity with the elements of NEP 2020 that are connected to online and mixed learning.
2. When it came to faculty preparedness and digital infrastructure, readiness levels were much greater in urban institutes than they were in rural institutes.
3. Insufficient internet facilities, a lack of appropriate digital devices, and unstable electrical supplies were all issues noted by a large number of rural institutions, all of which had a direct impact on preparation.
4. In spite of the fact that awareness was high, the pedagogical adaptation to blended models stayed moderate, which indicates that there is a discrepancy between understanding of policy and classroom practice.
5. Those who had previously participated in digital training programs demonstrated greater preparedness and adaption ratings than those who had no such training.
6. The importance of institutional leadership in the implementation of digital projects was emphasized by the respondents, with administrators who were more aggressive attaining better outcomes.
7. According to a significant number of teachers, children from underprivileged families had a difficult time gaining access to gadgets and steady connectivity, which reduced the level of inclusion.
8. The results of the statistical analysis demonstrated a substantial positive link between awareness of the provisions of the NEP and pedagogical adaptation, which substantiated the idea that awareness has the ability to impact teaching practices.
9. The participants in the study stated that, although policy guidelines are in place, there is an inadequate amount of monitoring and assessment to guarantee that these standards are consistently implemented across all institutions.

Conclusion and Recommendations

The results of the current study emphasize the fact that the NEP 2020 has been successful in presenting a compelling and forward-thinking vision for the advancement of online and blended learning as components of the digital transformation of classrooms in India. The findings, on the other hand, also indicate that the actual implementation of this vision is still not uniform across all institutions, as urban institutions show a greater level of preparedness in comparison to their rural counterparts. Despite the fact that the faculty members and directors of institutions are generally well-informed about the policy, the extent to which this knowledge is translated into effective educational practices remains limited.

The investigation has led to the emergence of numerous recommendations that may be of use in bridging these gaps. First and foremost, it is imperative to enhance digital infrastructure in rural regions. This includes providing consistent electricity, stable internet connectivity, and access to electronic devices. Secondly, it is essential to implement teacher training programs that are practice-oriented and sustained in order to provide faculty members with the ability to successfully incorporate digital pedagogies into their classrooms. Third, it is essential to put in place a systematic process for periodic monitoring and assessment in order to evaluate the extent to which

the provisions of NEP 2020 have been implemented and to guarantee responsibility at the institutional level. Finally, it is necessary to provide targeted support to students who come from underprivileged socioeconomic situations in order to guarantee that they have equal access to online and blended learning methods.

The study clearly recognizes that it has certain limitations. The limited sample size of four institutions and the dependence on self-reported data may not sufficiently account for the range of contexts that exist throughout the nation. As a result, the objective of future research should be to increase the sample size to include various states and to add longitudinal methodologies in order to analyze how readiness, awareness, and adaptation change over time as NEP 2020 continues to be implemented.

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