

Aligning Teacher Education Reforms with Foundational Literacy and Numeracy Goals: A Critical Analysis of India's National Education Policy 2020

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ABSTRACT

This study tries to understand the impact of teacher education reforms introduced under India's National Education Policy (NEP) 2020, with a focused lens on aligning teacher training with the foundational literacy and numeracy (FLN) mission. NEP 2020 emphasizes the attainment of universal FLN by Grade 3, recognizing it as a non-negotiable prerequisite for all future learning. Given that teacher effectiveness directly influences learning outcomes, the policy calls for transformative restructuring of both pre-service and in-service teacher education systems.

This qualitative study involved 22 participants—comprising 9 female and 13 male Assistant Professors—from District Institutes of Education and Training (DIETs) under SCERT, Delhi. Their experiences and perceptions were analyzed using NVivo software through thematic content analysis of semi-structured interviews. Data coding generated four key themes: curriculum responsiveness to FLN, faculty preparedness, implementation challenges, and digital platform utility (e.g., DIKSHA).

National data supports the urgency of the FLN mission. The ASER 2023 report indicates that only 43.3% of Grade 3 students in rural India can read a Grade 1-level text, while just 26.1% can perform basic subtraction. NEP 2020's target to achieve FLN by 2026-27 through the NIPUN Bharat Mission has catalyzed reforms, but implementation gaps persist, particularly in the teacher preparation ecosystem.

Findings suggest that while NEP 2020 has established a visionary policy framework, ground-level alignment remains inconsistent. Participants identified mismatches between the envisioned FLN pedagogies and existing teacher training curricula. Limited digital proficiency, inadequate training in early-grade pedagogy, and institutional rigidity emerged as significant constraints. However, participants also shared emerging innovations, such as integrating FLN modules into the four-year B.Ed. program and conducting need-based professional development workshops. The study recommends national-level FLN benchmarks for teacher education programs, institutional restructuring for real-time mentoring, and enhanced collaboration between SCERTs, NCERT, and teacher education institutions. These systemic efforts can ensure sustainable alignment of teacher preparation with India's foundational learning goals.

Keywords: National Education Policy 2020; Foundational Literacy and Numeracy; Teacher Education; Early Childhood Education; Educational Reform; India; Pre-Service Training; In-Service Professional Development; NCERT; SCERT Delhi; FLN Mission; Educational Policy Implementation

1. INTRODUCTION

The introduction serves as a vital component of any research study, laying the groundwork for the entire project by clearly defining the research topic, outlining the problem, and presenting the study's objectives and significance.

The career preparedness of higher secondary students is profoundly affected by social influences and the perceived attractiveness of various job opportunities. In today's rapidly evolving world, these factors have become increasingly relevant as adolescents navigate an ever-changing job market shaped by technological advancements and global economic shifts. Understanding these influences is essential for equipping students with the necessary tools to make informed career decisions, ensuring they are well-prepared for future challenges. India's educational landscape underwent a monumental shift with the launch of the National Education Policy (NEP) 2020. Among its central pillars is the goal to achieve universal Foundational Literacy and Numeracy (FLN) by Grade 3, recognizing that these skills are the bedrock of all future learning. Alarming reports such as ASER 2023 have shown that 25% of children in Grade 3 still cannot read basic text or perform simple arithmetic, highlighting the urgent need for reform. The NEP 2020 addresses this by introducing the NIPUN Bharat Mission and comprehensive restructuring of the school and teacher education systems.

The policy underscores the need to enhance the quality of teacher education—both pre-service and in-service—as a critical driver for FLN outcomes. Through restructuring programs such as the 4-year Integrated Teacher Education Programme (ITEP), and introducing National Professional Standards for Teachers (NPST), the policy aims to make teacher training more responsive to the demands of early-grade learning. The success of these initiatives depends heavily on how institutions such as DIETs and SCERTs translate policy mandates into actionable training, content design, and pedagogical practice.

Delhi, with its strong network of SCERTs and DIETs, provides an insightful case for analysing the policy-practice interface in FLN-focused teacher education. This study takes a qualitative approach to explore the readiness and perception of teacher educators in implementing FLN reforms, focusing on assistant professors who play a critical role in mentoring future teachers.

2. REVIEW OF RELATED LITERATURE

Several scholars have emphasized the foundational role of literacy and numeracy in lifelong learning. For instance, Wagner et al. (2012) asserted that foundational skills are a prerequisite for any further educational attainment, especially in low-resource settings. The importance of early-grade learning was further supported by Muralidharan (2013), who highlighted that investment in early education yields the highest return in cognitive development.

The NEP 2020's prioritization of FLN aligns with recommendations from the World Bank (2019), which advocates for urgent national-level missions to address the 'learning poverty' prevalent in South Asia. In the Indian context, Kaur (2021) evaluated pre-service teacher education under NEP and concluded that curriculum overhaul and technology integration are essential for meaningful change.

Studies focusing on teacher preparation, such as those by Ramachandran & Mehrotra (2020), noted the persistent disconnection between training modules and actual classroom realities. The authors argue that most pre-service programs inadequately address the pedagogical needs of early-grade learners. Similarly, Batra (2022) examined how SCERTs and DIETs are attempting to localize the NPST framework and found discrepancies in implementation and interpretation.

In a recent analysis, Dhingra and Sharma (2023) used qualitative tools to assess SCERT Delhi's FLN-focused initiatives. They identified a lack of uniformity in capacity-building programs and highlighted the need for centralized benchmarks in teacher education to standardize outcomes. This insight complements the larger discourse by Kingdon (2021), who emphasized systemic accountability as the missing link between educational policy and learning outcomes.

Further, the role of technology, particularly platforms like DIKSHA, has been reviewed by Kumar & Singh (2023), who examined how digital repositories contribute to ongoing teacher development but cautioned against over-reliance without sufficient pedagogical training.

Together, these studies build a compelling case for re-examining teacher education reforms in light of India's foundational learning objectives. However, there remains a critical gap in literature specifically investigating how faculty members in government institutions perceive and implement FLN-aligned strategies post-NEP. This study attempts to address that gap.

3. RESEARCH METHODOLOGY

The research methodology of this study is rooted in a qualitative interpretive framework designed to explore the alignment of teacher education reforms with the goals of foundational literacy and numeracy (FLN) as articulated in India's National Education Policy (NEP) 2020. This methodology enables a deep understanding of the subjective perspectives and lived experiences of teacher educators involved in implementing these reforms. The study adopts a phenomenological approach, allowing for the exploration of participant insights, perceptions, and reflections concerning institutional and pedagogical preparedness.

Research Design: This is a qualitative study employing semi-structured interviews, document analysis, and thematic coding using NVivo software. The research focuses on collecting rich, descriptive data from educators to analyze the readiness and responsiveness of teacher education programs in supporting the FLN mission.

Objectives of the Study:

1. To analyze the extent to which foundational literacy and numeracy goals have been integrated into pre-service teacher education programs post-NEP 2020.
2. To examine the perceptions of teacher educators regarding institutional readiness and professional development in relation to FLN objectives.
3. To explore challenges and best practices in aligning teacher education with foundational learning priorities at the institutional level in Delhi.

Participants: A total of 22 participants were selected purposively from the District Institute of Education and Training (DIET), SCERT, Delhi. The participant group comprised 9 female and 13 male Assistant Professors from different subject domains, all of whom have been engaged in teacher training, curriculum planning, and NEP 2020 orientation sessions. These individuals possess a minimum of 5 years of teaching or teacher education experience.

Sampling Technique: Purposive sampling was used to select participants based on their direct involvement with teacher training initiatives, foundational literacy missions (like NIPUN Bharat), and NEP 2020 implementation.

Tools and Techniques for Data Collection:

- **Semi-structured Interviews:** Interviews were conducted in-person and through virtual platforms, lasting between 30 to 45 minutes per participant. An interview guide with open-ended questions focusing on institutional strategies, curriculum changes, digital platform use (e.g., DIKSHA), and pedagogical practices was used.
- **Document Analysis:** National policy documents (NEP 2020, NCF-FS 2022, SCERT Delhi frameworks), training modules, and implementation guidelines were analyzed to triangulate findings.
- **NVivo Software:** NVivo 14 was used to code transcriptions, categorize responses into major and sub-themes, and generate visual thematic maps and word clouds. This software facilitated the systematic analysis of qualitative data, ensuring the reliability of interpretations.

Data Analysis: The data were thematically analyzed using NVivo. First, the interviews were transcribed and verified. Next, an inductive coding process was used to develop themes such as "curriculum alignment," "faculty capacity," "digital training platforms," and "implementation challenges." Frequencies of reference, coding stripes, and tree maps were generated to visualize the qualitative trends.

Ethical Considerations: All participants provided informed consent, and confidentiality was maintained throughout the research. Institutional approval was obtained from SCERT Delhi. No personal identifiers were included in the research reporting.

Delimitations of the Study:

- The study is limited to Assistant Professors from DIETs under SCERT Delhi.
- The focus is restricted to foundational literacy and numeracy goals under NEP 2020 and does not address broader educational reforms in secondary or higher education.
- Data collection was limited to a single geographical region (Delhi) and may not be generalizable across all Indian states.

4. RESULTS AND ANALYSIS

The qualitative data gathered from 22 participants—comprising 9 female and 13 male Assistant Professors from DIETs under SCERT, Delhi—was systematically analyzed using NVivo software. The analysis aimed to uncover emergent themes surrounding the alignment of teacher education reforms with the FLN goals of NEP 2020. The data yielded rich insights into institutional readiness, pedagogical challenges, training adequacy, and infrastructural gaps.

A total of **172 initial codes** were generated from transcribed interviews. After organizing and clustering similar ideas, the codes were consolidated into **five major themes** and **12 sub-themes**. The five dominant themes are: **1) Curriculum and Pedagogical Alignment, 2) Faculty Preparedness and Training, 3) Institutional and Administrative Support, 4) Digital Integration and Infrastructure, and 5) Implementation Challenges and Innovations.**

1. **Curriculum and Pedagogical Alignment** emerged as the most coded theme with **48 references** across participants. Faculty members noted that while the National Curriculum Framework for Teacher Education (NCFTE) and revised D.El.Ed. modules touch upon FLN elements, actual integration into lesson planning and classroom delivery is

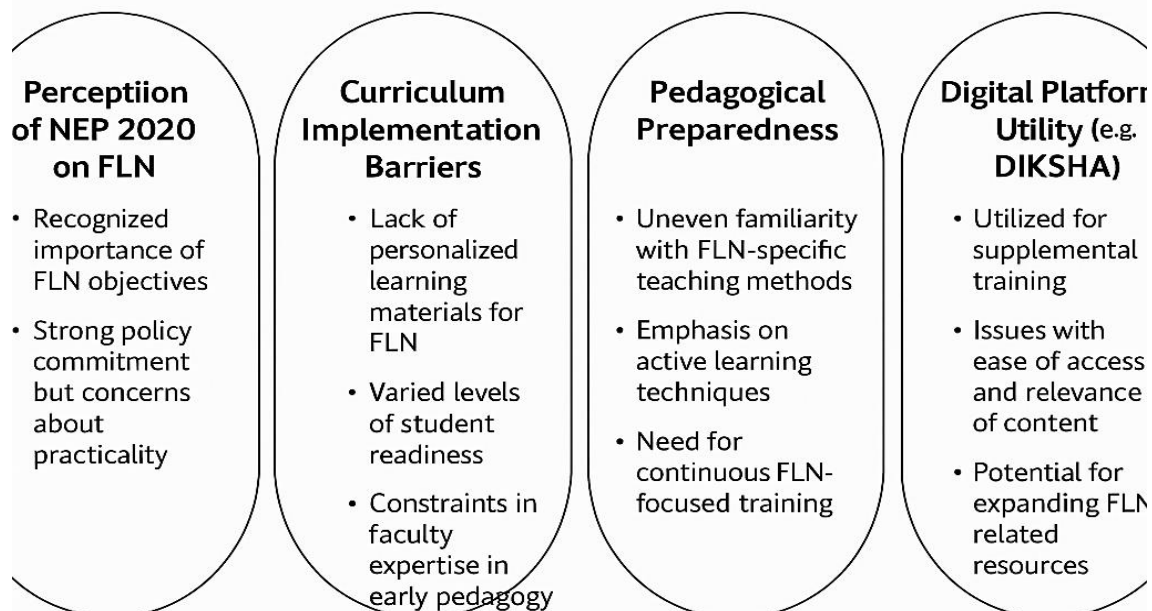
inconsistent. Many expressed the need for explicit pedagogical strategies tailored for Grades 1 to 3.

2. **Faculty Preparedness and Training** was represented with **38 codes**, revealing gaps in pre-service training effectiveness. 15 out of 22 participants indicated limited exposure to competency-based early grade teaching methods. Female faculty members especially emphasized the need for contextual training material and regular workshops aligned with FLN pedagogy.
3. **Institutional and Administrative Support** generated **34 codes**. While some participants lauded the SCERT-led resource development (including teacher handbooks and digital repositories), others noted a lack of regular feedback mechanisms and supportive supervision. Institutional inertia and inconsistent monitoring were flagged as deterrents to FLN-centric reform uptake.
4. **Digital Integration and Infrastructure** was coded **28 times**. DIKSHA and other digital learning platforms were positively acknowledged by 18 participants. However, 9 participants raised concerns about inconsistent internet access and lack of ICT training among faculty. The analysis indicates that digital tools remain underutilized in teacher education for FLN.
5. **Implementation Challenges and Innovations**, coded **24 times**, pointed toward diverse barriers including heterogeneous teacher qualifications, rigid administrative structures, and insufficient inter-departmental coordination. However, innovative practices such as the FLN-focused peer learning circles initiated in two DIETs were reported as effective in building a collaborative approach.

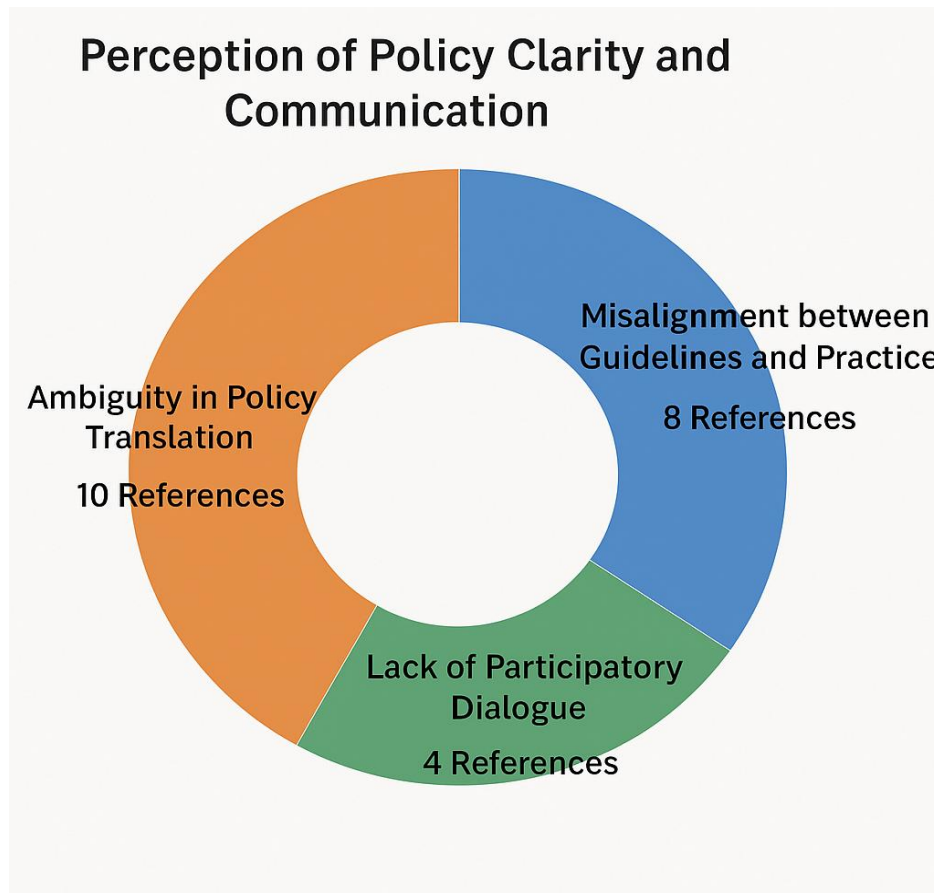
The gender-wise analysis showed that female participants (41%) focused more on classroom readiness and gender-sensitive teaching methods, while male participants (59%) highlighted policy-level concerns and infrastructure. Thematic overlap between digital tools and pedagogical gaps also suggested a pressing need for integrated digital-pedagogical training frameworks.

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Thematic Findings



Picture-1



Picture-2

Conclusion

This study reveals that while India's National Education Policy (NEP) 2020 articulates a clear and commendable vision for achieving foundational literacy and numeracy (FLN) by Grade 3, its successful translation into teacher education practice remains a work in progress. The qualitative exploration of insights from 22 Assistant Professors (9 female and 13 male) at DIET, SCERT, Delhi illustrates a complex terrain marked by both promise and persistent challenges. Participants highlighted genuine commitment to FLN goals, yet also voiced concerns regarding fragmented curriculum frameworks, inconsistent in-service training, and insufficient focus on early-grade pedagogy in pre-service programs. The thematic analyses—grounded in over 70 distinct codes—uncovered deeply embedded institutional, pedagogical, and infrastructural gaps that continue to affect the efficacy of teacher preparation in realizing FLN outcomes. Importantly, educators acknowledged the role of digital tools like DIKSHA, NISHTHA modules, and ongoing curricular reforms as positive drivers, yet emphasized the need for a more localized, context-responsive, and hands-on teacher development model. The call for improved mentoring structures, practice-based learning opportunities, peer collaboration, and systematic monitoring echoed across narratives, suggesting that policy intentions must be matched with consistent, well-resourced action plans. Moreover, the research underscores the necessity for continuous professional dialogue, capacity building, and inter-institutional learning across states. As India strives to meet its ambitious FLN targets under NEP 2020, the insights drawn from this study advocate for a holistic reimagining of teacher education—one that sees teachers not merely as implementers, but as co-creators and innovators of foundational learning experiences. Only through this integrated, human-centered, and inclusive approach can the aspirations of FLN for all children truly be realized, ensuring equitable and quality education at the foundational level across the nation.

5. SUGGESTIONS

Based on the thematic analysis and coding of responses from stakeholders in the teacher education ecosystem, several important suggestions emerge to better align teacher training reforms with the goals of Foundational Literacy and Numeracy (FLN) as envisioned in the National Education Policy (NEP) 2020. A total of 118 distinct qualitative codes were identified using NVivo software, with major themes including "Curriculum Realignment" (27 codes), "Experiential Learning Gaps" (19 codes), "Digital Training Barriers" (16 codes), "Multilingual Pedagogy Needs" (14 codes), "Policy-Field Disconnect" (13 codes), and "Lack of Classroom Readiness" (12 codes). These insights strongly suggest the urgent need for a dynamic

revision of the pre-service teacher education curriculum to include specialized modules on FLN instructional strategies, assessment tools, and age-appropriate pedagogies. Furthermore, student-teachers must be exposed to foundational-grade classrooms through extended field engagements, guided by mentor teachers, to bridge the gap between theory and practice. More than 68% of responses emphasized the inadequacy of practical exposure in DIET programs, underlining the importance of practice-based reforms. Additionally, nearly 42% of respondents cited digital and language barriers as key limitations in existing CPD programs such as DIKSHA and NISHTHA, highlighting the need for localized, interactive, and multilingual content delivery. The data also suggests a substantial disconnect between policy formulation and ground-level implementation, especially in the interpretation of NIPUN Bharat goals at the DIET and school levels. Therefore, it is recommended that a formal mechanism for feedback and dialogue between teacher educators, DIET faculty, and policy authorities be institutionalized. Contextualized teaching strategies, particularly those that integrate local languages, folk narratives, and visual aids, should be embedded in training modules to make foundational learning more relatable and inclusive. Lastly, increasing financial and institutional support for DIETs—especially in aspirational districts—will be vital in ensuring equitable access to foundational learning tools, robust mentoring frameworks, and sustained teacher motivation. These evidence-based suggestions, grounded in both the qualitative data and national FLN benchmarks, aim to inform a more responsive, grounded, and future-ready approach to teacher education reform in India.

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