From Vision to Execution: A Comparative Study of the Educational Ecosystem in NEP 2020 and NCF-SE 2023

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DOI: https://doi.org/10.47772/IJRISS.2026.102000002

Received: 16 October 2026; Accepted: 21 October 2026; Published: 19 November 2026

ABSTRACT

The National Education Policy (NEP) 2020 and the National Curriculum Framework for School Education (NCF-SE) 2023 are two major structural changes in the Indian educational system over the last few decades. This study will examine the transition from the overall systemic architecture developed by NEP 2020 to the specific operational strategies outlined in NCF-SE 2023. Using a systematic comparative framework, this study will analyze how well-aligned the objectives, pedagogy, and assessment methods are in both documents. (Ministry of Education, 2020; National Council of Educational Research and Training, 2023)

Keywords: Educational Ecosystem, NEP 2020, NCF-SE 2023, School Culture, Educational Policy, School Processes

INTRODUCTION

The current phase of major structural change in the Indian educational sector is driven by the National Education Policy (NEP) 2020. NEP 2020 presents an ambitious, macro-level plan for creating a more equitable, holistic and integrated learning experience (Ministry of Education, 2020; National Council of Educational Research and Training, 2023). However, the creation of a new policy does not guarantee that classroom experiences will improve. The successful implementation of a school's curriculum depends heavily upon the strength and flexibility of its surrounding environment or what is called the "educational ecosystem" (Ministry of Education, 2020; National Council of Educational Research and Training, 2023). In order to address the inherent, disconnect between national policies and local implementation, the National Council of Educational Research and Training (NCERT) created the National Curriculum Framework for School Education (NCF-SE) 2023. If NEP 2020 represents the systemic framework, then NCF-SE 2023 acts as the operational guidebook for each individual institution. It describes the specific mechanisms necessary to translate broad policy goals into everyday school practices. (Ministry of Education, 2020; National Council of Educational Research and Training, 2023) While NEP 2020 views the ecosystem as a large-scale interconnected network spanning the entire country, NCF-SE 2023 focuses on the smaller-scale environment immediately surrounding a single school. It identifies the immediate supportive environments, resource allocation and cultural norms needed to facilitate learning within that particular school. (Ministry of Education, 2020; National Council of Educational Research and Training, 2023) Both NEP 2020 and NCF-SE 2023 recognize the importance of building a strong educational ecosystem; however, they define this concept differently. NEP 2020 defines the ecosystem as an interconnected network throughout the nation relying on standard setting organizations and breaking down barriers between different types of academic disciplines. On the other hand, NCF-SE 2023 defines the ecosystem as the immediate supportive environment, resource allocation and cultural norms that enable learning to occur within a specific school. (Ministry of Education, 2020; National Council of Educational Research and Training, 2023) Before we can collect reliable data regarding whether these reforms are working, researchers need to clearly define what these changing elements mean. Therefore, this paper attempts to bridge the gap between theory and practice by comparing how NEP 2020 and NCF-SE 2023 conceptualize the educational ecosystem.

Objectives of Research

1. To identify the main structural components of the educational ecosystem as described in NEP 2020.
2. To determine how NCF-SE 2023 turns the systemic vision presented in NEP 2020 into practical school culture and daily institutional processes.
3. To examine how the definition of the ecosystem has shifted from a macro-level policy guideline to a micro-level execution.

METHODOLOGY

This study utilized qualitative document analysis as a systematic method for analyzing official documents to derive meaning and create empirical knowledge. Qualitative document analysis is especially useful for studying how policy ideas evolve into curriculum frameworks. The primary sources of data were the two documents currently guiding educational reform in India: (Ministry of Education, 2020; National Council of Educational Research and Training, 2023)

1. National Education Policy (NEP) 2020 (Government of India Ministry of Education).
2. National Curriculum Framework for School Education (NCF-SE) 2023 (NCERT). (Ministry of Education, 2020; National Council of Educational Research and Training, 2023)

To conduct the analysis, a thematic approach was used to isolate sections, directives and procedures related to the "educational ecosystem," "supportive environment," "school culture" and "school processes." These themes were synthesized to show how the scope of the ecosystem changes from policy development (NEP) to curriculum implementation (NCF-SE).

Comparative Framework of NEP 2020 and NCF-SE 2023

In order to understand how these reforms are structured, it is important to compare the vision of NEP 2020 with the implementation of NCF-SE 2023 across five key areas: objectives, strategies, pedagogy, assessment and outcomes.

A. NEP 2020 aims for a flexible and technology-driven educational system that eliminates past barriers between art, science and vocational programs (Kamble, 2026), (Jagtap, 2026). It also emphasizes equal access and opportunity for all groups including those who belong to socially/economically disadvantaged groups (SEDGs) (Bhattacharya & Mishra, 2024), (Kumar, 2025). NEP 2020 plans to achieve these goals through large-scale interventions such as Special Education Zones and the 5+3+3+4 structural model to create a fluid learning environment (Ministry of Education, 2020; National Council of Educational Research and Training, 2023).

B. In contrast, NCF-SE 2023 implements these goals by focusing on the "hidden curriculum" — i.e., the daily routines, disciplinary rules and peer relationships that shape school culture (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (Swargiary & Roy, 2023). NCF-SE 2023 provides localized teacher empowerment, supplies teaching-learning materials (TLM) and integrates communities into schools through School Management Committees (SMCs) (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (Kumar, 2025).

C. NEP 2020 moves away from traditional rote learning methods toward experiential, multi-disciplinary learning and mother-tongue based instruction during early childhood education (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (Jadhav & Sukhadev, 2026), (Pal, 2024). Additionally, NEP 2020 requires students to learn three languages using the Three Language Formula and incorporates Indian Knowledge Systems into the curriculum (Verma, 2025), (Jadhav & Sukhadev, 2026).

D. NCF-SE 2023 translates this into classroom practice through competency-based learning and inclusive pedagogy (Rooj, 2025), (Manju, 2026). Assessments under NEP 2020 should be formative and holistic and should be conducted by new organizations such as PARAKH (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), ("Transforming Education: NEP 2020 and PARAKH," 2024). NCF-SE 2023 provides the tools for this by moving towards 360-degree holistic progress cards and competency-based evaluations that better track student learning outcomes than traditional standardized tests (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (Sahdil, 2026).

Expected Outcomes and Systemic Goals

The long-term goal of NEP 2020 is to develop an egalitarian, inclusive and multi-disciplinary framework that increases international competitiveness (Mishra et al., 2025). It intends to increase the Gross Enrollment Rate (GER) in higher and vocational education to 50 percent by 2030-2035 and expects education spending to reach 6 percent of GDP (Waris & Chandel, 2023), (Chhablani, 2024).

NCF-SE 2023 focuses on the immediate outcomes of these goals: student engagement, psychological safety in classrooms and development of foundational literacy and numeracy (FLN) skills (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (Yadav, 2026).

Empirical Evidence and Case Studies of Implementation

Implementing policies into practice has produced mixed results across India based on recent implementation reports and case studies. (Kamble, 2026), (M., M., & Asika, n.d.), (Tripathi & Shukla, 2025) Data collected indicates a significant difference between the digital vision of NEP 2020 and the actual situation on the ground.

Reports indicate that only 57.2 percent of schools have computers that work, and only 53.9 percent of schools have Internet access (Kamble, 2026). Also, only 35 percent of schools have smart classrooms, indicating a continued digital divide, especially in rural areas (Kamble, 2026). In states like Arunachal Pradesh, developing digital content in multiple languages is difficult due to linguistic diversity and requires additional investment in local language resources (Hamid, 2024).

A. Evidence from pilot programs shows positive effects when mother-tongue instruction is used (Verma, 2025). In Anganwadi centers, a qualitative case study found that using the mother tongue allows for emotional connections and understanding of concepts. Educators successfully use dramatization and gestures to engage young learners (K., 2026). However, states like Uttar Pradesh and Bihar face difficulties with rapid transitions between instructional mediums and a scarcity of bilingual resources (Verma, 2025).

B. Over 70 lakh teachers have been trained digitally via platforms such as DIKSHA and NISHTHA; however, many teachers do not apply these tools in their classrooms (Kamble, 2026). Reviews of secondary schools in Odisha reveal large gaps between policy vision and institutional delivery, particularly in teacher professional development (M., M., & Asika, n.d.).

C. Active Community Integration One major operational change in NCF-SE 2023 is the explicit inclusion of the local community into the educational ecosystem. NCF-SE 2023 establishes practical ways for parents, local artisans and School Management Committees (SMCs) to become involved in school processes. The ecosystem is no longer confined to just the school walls but extends into a cooperative neighborhood network. (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (Tripathi & Shukla, 2025)

Barriers to Successful Implementation

The process of translating policy into practice is impeded by numerous systemic issues that must be resolved if the reforms are to succeed. (Kamble, 2026), (Bala et al., 2025), (Singh, 2025), (Gaur, 2023)

- **Teacher Readiness and Capacity Building**: There is a significant shortage of teachers nationally, totaling over 8.46 lakh positions (Kamble, 2026). In addition to the number of teachers, there is a considerable gap in teacher preparedness for new pedagogical approaches such as multi-disciplinary and competency-based teaching (Bala et al., 2025), (Sharma, 2025). Many teachers are ill-prepared for linguistically diverse classrooms and lack the autonomy and resources needed to implement localized curricula (Singh, 2025), (Nandy, n.d.).

- **Digital Infrastructure and the Urban-Rural Divide:** The "digital divide" continues to be a primary barrier. Many rural and remote areas lack reliable electricity and high-speed internet making digital platforms such as SWAYAM ineffective for marginalized populations (Kamble, 2026), (Swargiary & Roy, 2023). The cost of maintaining digital infrastructure and financial constraints place further pressure on school budgets (Gaur, 2023), (Pai, 2023).

- **Regional Inequality and Resource Shortages:** Implementation varies greatly across states due to differences in economic conditions and administrative capabilities (Bala et al., 2025), (Thakare, 2025). Insufficient funding often prevents full-scale upgrades of school facilities and many institutions struggle to transition to multi-disciplinary models due to a lack of specialized faculty and laboratory-based facilities (Waris & Chandel, 2023), (Chhablani, 2024), (Bhattacharya & Mishra, 2024).

- **Multilingual Education and Cultural Resistance:** Although mother-tongue instruction is pedagogically sound, it faces cultural resistance from parents who prefer English-medium instruction because they believe it will provide their children with greater economic opportunities ("Mother Tongue as a Tool for Foundational Literacy," 2025), (Singh, 2025). Creating high-quality textbooks in multiple regional languages and managing dialectal diversity remain ongoing logistical challenges (Hamid, 2024), ("Mother Tongue as a Tool for Foundational Literacy," 2025).

- **Resource Availability and Institutional Capacity:** Limited resources interact with regional inequality: many schools do not have sufficient teaching-learning materials, laboratories, accessible facilities or the specialized personnel needed to implement multi-disciplinary and inclusive curricula. Therefore, monitoring must distinguish formal policy adoption from the actual resources available to teachers and learners (Waris & Chandel, 2023), (Chhablani, 2024), (Bhattacharya & Mishra, 2024).

Measuring Reform: Indicators and Monitoring

a. Gross Enrollment Ratio (GER): Achieving a 50 percent target in higher and vocational education by 2035 (Dhawale et al., 2023), (Chhablani, 2024).

b. Infrastructure Access: Percentage of schools with functional computers, Internet and smart classrooms (current base line: 57.2 percent, 53.9 percent and 35 percent respectively) (Kamble, 2026).

c. Learning Outcomes: Improvement in achievement scores on standardized assessments such as the National Achievement Survey (NAS) and attainment levels of FLN competencies ("Elementary Education in India versus China," 2022), (Yadav, 2026).

d. Financial Commitment: Public education spending reaching 6 percent of GDP (Waris & Chandel, 2023), (Sharma, 2025).

e. Equity Indicators: Retention and drop-out rates among SEDGs and linguistic minorities ("Elementary Education in India versus China," 2022), (Kumar, 2025), (Yadav, 2026).

f. Sustainable Development: Alignment with NITI Aayog's SDG India Index to track progress towards quality education for all ("Sustainable Development Goals and India's National Education Policy 2020," 2025).

RECOMMENDATIONS FOR STAKEHOLDERS

- **For Policymakers:** Increase Investment: Fulfill commitment to invest 6 percent of GDP in education with priority given to rural infrastructure and digital inclusion (Waris & Chandel, 2023), (Sharma, 2025). Decentralize Monitoring: Establish state and district-level monitoring units to track ground-level variables and provide context-specific support (Sharma, 2025), (Tripathi & Shukla, 2025). Teacher Recruitment: Conduct a mission mode recruitment drive to fill 8.46 lakh teacher vacancies and reduce pupil-teacher ratio (Kamble, 2026), (Yadav, 2026).

- **For School Administrators:** Promote Collaborative Governance: Involve School Management Committees (SMCs), parents and local communities in school processes to build a supportive ecosystem (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (Tripathi & Shukla, 2025). Build Institutional Capacity: Provide time and resources for teachers to collaborate on planning and engage in continuous professional development (CPD) (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (Paul, 2026). Create Accessible Facilities: Ensure school facilities meet inclusive standards and provide support services for students with disabilities (Directorate of Education, NCT of Delhi & Verma, 2025).

- **For Teachers and Educators:** Use Inclusive Pedagogy: Utilize mother-tongue based multilingual teaching and culturally responsive materials to enhance student engagement (K., 2026), (Jadhav & Sukhadev, 2026). Participate in CPD: Regularly attend training programs like NISHTHA to acquire skills in digital pedagogy and competency-based assessment (Kamble, 2026), (Sharma, 2025). Map Local Knowledge: Work with local artisans and community members to incorporate local knowledge and vocational skills into the classroom (Ministry of Education, 2020; National Council of Educational Research and Training, 2023), (K., 2026).

- **For Curriculum Developers:** Develop Local Content: Create bridge materials and bilingual textbooks that reflect regional linguistic diversity and cultural context (Hamid, 2024), (Jadhav & Sukhadev, 2026), ("Mother Tongue as a Tool for Foundational Literacy," 2025). Focus on Competency: Redesign textbooks, such as the "Poorvi" English series, to emphasize practical skills and student participation instead of rote memorization (Rooj, 2025). Include Eco-Pedagogy: Incorporate environmental sustainability and indigenous knowledge systems into the core curriculum (Bhatt, 2025).

CONCLUSION

The successful implementation of India's educational reforms is dependent on the strength of the surrounding educational ecosystem. This study confirms that NEP 2020 and NCF-SE 2023 are highly complementary: NEP 2020 provides the essential national architecture for equity and reform while NCF-SE 2023 provides the essential operational manual for classroom implementation (Ministry of Education, 2020; National Council of Educational Research and Training, 2023). However, empirical evidence demonstrates that the transition from vision to execution is currently constrained by significant infrastructure and pedagogical deficiencies. For researchers and practitioners, the challenge lies in moving beyond macro-level statistics to understand the micro-level variables that influence school culture, teacher autonomy and community involvement. Only through sustained investment, decentralized monitoring and a humanistic approach to teaching can the visionary goals of NEP 2020 be translated into a transformative reality for every student in India. Future empirical research must focus on developing context-specific tools — such as descriptive surveys and structured observation schedules — capable of measuring these newly-defined micro-level variables. Only by directly observing how the actionable ecosystem — from teacher autonomy to daily school culture — is being realized on the ground can the true effectiveness of NEP 2020's vision be assessed.

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