



Effective Pedagogical Strategies For Foundational Literacy And Numeracy In Early Childhood Care And Education With Reference To Nep-2020

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Abstract: Foundational Literacy and Numeracy (FLN) constitute the most essential skills that enable children to read with understanding and perform basic mathematical operations. Early Childhood Care and Education (ECCE) is recognized as the critical stage for developing these abilities, as the first eight years of life lay the groundwork for lifelong learning. The National Education Policy (NEP) 2020 has identified the attainment of FLN by all children by the end of Grade 3 as an urgent national mission, emphasizing play-based, activity-oriented, and developmentally appropriate pedagogical practices. This paper discusses effective pedagogical strategies for promoting FLN in ECCE in the light of NEP 2020. It highlights approaches such as Activity-Based and Play-Oriented Learning, Multisensory and Experiential Approach, Mother-Tongue/ Home Languages- Based Learning, Integrating Literacy and Numeracy in daily life, Developmentally Appropriate Practices, Technology- Enabled Learning, Continuous Assessment for Learning, Inclusive and Equitable Practices, Teacher Capacity Building, Parental and Community Engagement. These strategies ensure joyful, inclusive, and contextually relevant learning for children, particularly those from tribal and marginalized communities. The study underscores that achieving universal FLN requires not only innovative pedagogy but also teacher capacity building, parental engagement, and systemic support through initiatives like NIPUN Bharat Mission. Strengthening FLN in ECCE is, therefore, not merely an academic requirement but a social responsibility to ensure equity, quality, and holistic development for all children in India.

Keywords: Pedagogical, Foundational Literacy and Numeracy, Early Childhood Care and Education, NEP-2020.

I. INTRODUCTION

Early Childhood Care and Education (ECCE) forms the foundation of a child's lifelong learning and holistic development. Research in neuroscience and education has consistently highlighted that the first eight years of life are crucial for the development of cognitive abilities, language acquisition, numeracy skills, and socio-emotional growth. Foundational Literacy and Numeracy (FLN) – the ability to read with understanding and perform basic mathematical operations – are considered the building blocks of all future learning. Without achieving these fundamental skills by the end of Grade 3, children are likely to struggle in higher classes, leading to learning gaps, dropouts, and reduced educational outcomes.

Recognizing this urgency, the National Education Policy (NEP) 2020 in India has placed a strong emphasis on ECCE and foundational learning. The policy identifies the years from 3 to 8 (the foundational stage) as the most critical period in a child's educational journey and mandates universal acquisition of FLN by 2025 through initiatives such as the NIPUN Bharat Mission. NEP 2020 advocates for activity-based, play-oriented, and developmentally appropriate pedagogical approaches that are rooted in children's everyday experiences, mother tongue, and cultural context. In this context, effective pedagogical strategies become essential to ensure that every child not only develops basic literacy and numeracy skills but also acquires curiosity, creativity, and confidence to progress in education. Approaches such as Activity-Based and Play-Oriented Learning, Multisensory and Experiential Approach, Mother-Tongue/ Home Languages- Based Learning, Integrating Literacy and Numeracy in daily life, Developmentally Appropriate Practices, Technology- Enabled Learning, Continuous Assessment for Learning, Inclusive and Equitable Practices, Teacher Capacity Building, Parental and Community Engagement. emphasized to make learning joyful, inclusive, and equitable for all children, especially those from tribal and marginalized backgrounds. Thus, strengthening FLN through innovative and inclusive pedagogy in ECCE, as envisioned by NEP 2020, is not only an educational priority but also a moral and social imperative to ensure equity, quality, and universal access to education in India.

II. REVIEW OF RELATED LITERATURE

Here are 3 insightful literature reviews that explore Effective Pedagogical Strategies for Foundational Literacy and Numeracy (FLN) in Early Childhood Care and Education (ECCE) with direct reference to India's National Education Policy (NEP) 2020. These studies offer rich perspectives on implementation, challenges, and innovations across diverse contexts:

Chauhan, R. (2023) Conducted a study on "Foundational Literacy and Numeracy: A Roadmap for National Development" explores the significance of Foundational Literacy and Numeracy (FLN) in shaping India's educational and developmental future. The study positions FLN as a cornerstone of the National Education Policy (NEP) 2020, emphasizing that achieving universal literacy and numeracy by Grade 3 is essential for ensuring quality learning outcomes across later stages of education. At the same time, the article discusses strategies such as activity-based learning, mother-tongue instruction, teacher professional development, parental involvement, and ICT-based interventions as key pathways to strengthen FLN. The author underscores the importance of community participation and locally contextualized pedagogical practices to make learning inclusive and equitable.

Meitei, Singh, and Singh (2024) conducted a study on “*Practical Pedagogical Approaches: Integrating Play-based and Experiential Learning at Pre-Primary Education as per NEP 2020 and NCF-FS 2022*” examines effective strategies for Early Childhood Care and Education (ECCE) in India. Grounded in the policy vision of NEP 2020 and the NCF-FS 2022, the study highlights how play-based, activity-based, and experiential learning approaches can strengthen children’s language, literacy, numeracy, creativity, and holistic development.

Sthapak, S. (2025) Conducted a study on “Foundational Literacy and Numeracy: A Systematic Review in the Context of Primary Education in India” systematically examines the status, challenges, and progress of Foundational Literacy and Numeracy (FLN) in India. It situates the discussion within the framework of the National Education Policy (NEP) 2020 and the NIPUN Bharat Mission, both of which emphasize ensuring that all children achieve grade-level competencies in literacy and numeracy by the end of Grade 3. The study adopts a secondary data review approach, drawing insights from large-scale assessments such as the Annual Status of Education Report (ASER) and the National Achievement Survey (NAS). These reports reveal persistently low levels of learning among primary grade children, particularly in numeracy, with only marginal improvements over the last decade. The study also highlights significant inter-state variations, with states like Kerala, Punjab, and West Bengal performing well, while Bihar, Madhya Pradesh, and Jharkhand lag behind.

III. NEP-2020 AND THE FLN MISSION

The NEP-2020 emphasizes:

- **Universal Achievement of FLN by 2025** through the *NIPUN Bharat Mission*.
- **Play and Activity-Based Pedagogy** for ECCE.
- **Multilingualism and Mother Tongue-Based Education** at the foundational stage.
- **Continuous Professional Development** of teachers and Anganwadi workers.
- **Integration of ICT and Digital Learning Tools** in ECCE.

This policy shift calls for innovative, inclusive, and developmentally appropriate pedagogical strategies to ensure equitable learning outcomes.

IV. EFFECTIVE PEDAGOGICAL STRATEGIES FOR FLN AND ECCE

1. **Activity-Based and Play-Oriented Learning:** Promotes joyful engagement and cognitive growth through hands-on exploration and culturally relevant play. Learning through games, rhymes, role play, puzzles, and storytelling. Activity-Based and Play-Oriented Learning encourages exploration, creativity and social interaction.
2. **Multisensory and Experiential Approach:** Enhances retention and understanding by involving multiple senses and real-world experiences. Using visual, auditory and kinesthetic methods. Support diverse learning styles and enhance retention. Examples- sand tracing for letters, singing rhymes with gestures, nature walks science concepts.

3. **Mother-Tongue/ Home Languages- Based Learning:** Builds strong conceptual foundations and emotional security, especially for tribal and marginalized children. Instruction in the child's first language for better comprehension and participation. Gradual transition to other languages, supporting multilingualism.
4. **Integrating Literacy and Numeracy in daily life:** Embeds learning in everyday routines, making it meaningful and accessible. Embedding in daily classroom routines and real-life situations (e.g., counting fruits, reading signboards). Contextual learning makes literacy and numeracy meaningful.
5. **Developmentally Appropriate Practices:** Aligns teaching with children's age-specific needs, ensuring realistic and nurturing learning environments. It also avoids rote learning and unrealistic expectations. Supports holistic development through age-appropriate goals and methods.
6. **Technology- Enabled Learning:** Expands access and personalization, when used judiciously and contextually. Use of digital storybooks, interactive apps, and audio -visual aids. Blended learning for engagement and personalized support.
7. **Continuous Assessment for Learning:** Uses formative tools to monitor progress and inform instruction, rather than relying on summative tests. Uses observation, portfolios and anecdotal records to monitor progress. Helps tailor instruction to individual needs and development milestones.
8. **Inclusive and Equitable Practices:** Ensures participation of all children, adapting pedagogy to diverse needs and backgrounds. Providing learning aids, peer support, and differentiated strategies. Promotes equity and social-emotional development.
9. **Teacher Capacity Building:** Empowers educators through ongoing training, reflective practice, and peer support. Ongoing training, workshops and mentoring for teachers and Anganwadi workers. Equipping educators with pedagogical skills, digital literacy and child psychology knowledge.
10. **Parental and Community Engagement:** Strengthens learning ecosystems by involving families and communities as co-educators. Builds trust and shared responsibility for learning. Strengthens home-school continuity and community ownership.

In these pedagogical strategies not only promote academic readiness but also foster holistic child development—cognitive, linguistic, social, emotional, and physical. They bridge the gap between home and school, theory and practice, and policy and classroom realities. When effectively implemented, these strategies become powerful tools to realize NEP-2020's mission of ensuring universal foundational learning for all children by 2025, thereby laying the groundwork for long-term academic success and equitable education.

V. CHALLENGES IN IMPLEMENTING EFFECTIVE PEDAGOGICAL STRATEGIES FOR FLN

Despite the emphasis of NEP-2020 on achieving universal Foundational Literacy and Numeracy (FLN), several challenges hinder its effective implementation in Early Childhood Care and Education.

1. Lack of Adequate Training for ECCE Facilitators:

Many Anganwadi workers and ECCE teachers have limited professional preparation in child-centered pedagogy. Their training often focuses on health, nutrition, and basic childcare, while specialized training on literacy and numeracy instruction is minimal. As a result, they may rely on rote teaching instead of play-based, experiential methods recommended by NEP-2020. Without continuous professional development, facilitators struggle to adapt innovative strategies that meet the diverse learning needs of children.

2. Resource Constraints in Rural and Tribal Settings:

Schools and Anganwadi centers in remote areas frequently face shortages of teaching-learning materials (TLMs), books, manipulatives, and digital resources. Infrastructure such as proper classrooms, child-friendly seating, and safe play areas are also lacking. These constraints limit teachers' ability to implement activity-based and multisensory approaches, making children's early learning experiences less engaging and effective.

3. Language Diversity in Classrooms:

In multilingual settings, particularly tribal areas, children speak varied home languages, while instruction may be delivered in the regional or state language. This language gap creates barriers in comprehension and participation, often leading to learning delays. Although NEP-2020 emphasizes teaching in the mother tongue/home language in early years, lack of localized materials and teacher preparedness to handle multiple languages remain key obstacles.

4. Limited Parental Awareness about FLN:

Parents in rural and tribal communities may not fully recognize the importance of early literacy and numeracy. Many prioritize work and livelihood over structured learning at home, and some assume that learning begins only in primary school. Consequently, home-based support for children such as storytelling, counting activities, or early reading is limited, weakening the continuity between school and home learning.

VI. RECOMMENDATIONS

- Strengthen teacher training in activity-based pedagogy.
- Develop multilingual teaching materials aligned with local culture.
- Ensure availability of age-appropriate books and learning kits.
- Promote community and parental engagement in ECCE.
- Leverage technology for teacher support and child learning.

VII. DISCUSSION

Foundational Literacy and Numeracy is not merely a policy target but the bedrock of lifelong learning and national development. The NEP-2020 provides a visionary framework for achieving universal FLN through innovative, inclusive, and play-based pedagogy. Effective strategies such as storytelling, activity-based learning, mother tongue instruction, and integration of ICT can transform ECCE centers into vibrant spaces of joyful learning. With committed teachers, community participation, and supportive policy measures, the dream of universal FLN by 2025 can be realized.

Therefore, the success of FLN initiatives depends on:

1. Equipping teachers and Anganwadi workers with professional training.
2. Strengthening parental and community participation in children's learning.
3. Adopting inclusive and context-specific pedagogies that respect language and culture.
4. Ensuring continuous monitoring and formative assessment instead of rote-driven testing.

VIII. CONCLUSION

This study concludes that effective pedagogical strategies ranging from play-based learning to mother-tongue instruction and technology integration are pivotal in achieving Foundational Literacy and Numeracy (FLN) in early childhood. These strategies are not isolated practices but interconnected approaches that together contribute to the holistic development of the child. The National Education Policy (NEP-2020) provides a clear framework for ensuring universal FLN by Grade 3, emphasizing joyful, inclusive, and competency-based learning. By linking classroom practices with the vision of NEP-2020, the study confirms that such strategies can transform the early years of education into a strong foundation for lifelong learning. In conclusion, effective FLN strategies are not merely methods of instruction but a pathway to educational equity and long-term success. Their thoughtful implementation can help India achieve the NEP-2020 vision of universal foundational learning, laying the groundwork for a future generation of confident, competent, and holistic learners.

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