

Evaluating the Impact of NEP 2020 on Foundational Literacy and Numeracy: An Empirical Study of Rural Primary Schools in West Bengal, India

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Abstract. *This study examines the impact of the National Education Policy (NEP) 2020 on Foundational Literacy and Numeracy (FLN) in rural primary schools of West Bengal, with special reference to Malda district, using a mixed-method research approach. Data were collected from 100 respondents, including primary school teachers and students, through structured questionnaires and interviews. The study was further supported by the analysis of official documents from the Samagra Shiksha Mission (2026).*

The findings reveal notable improvements in student engagement, classroom participation, and teaching-learning practices following the implementation of FLN initiatives under NEP 2020. Teachers reported increased use of activity-based learning methods and better monitoring of students' foundational skills. However, several challenges persist, including insufficient teaching-learning materials, limited teacher training opportunities, and infrastructural constraints in rural schools.

The study underscores the importance of continuous teacher capacity building, adequate resource allocation, and effective monitoring mechanisms for the successful implementation of NEP 2020 in rural education systems. The findings have significant implications for policymakers, educators, and administrators working to strengthen foundational education in rural areas.

Key words: *National Education Policy 2020, Foundational Literacy and Numeracy (FLN), Rural Primary Education, Samagra Shiksha, Malda District, West Bengal.*

1. Introduction

The **National Education Policy (NEP) 2020** represents a significant reform in the Indian education system, placing strong emphasis on achieving **universal Foundational Literacy and Numeracy (FLN)** for all children by the early grades. Foundational literacy and numeracy are considered essential building blocks for lifelong learning, enabling children to acquire basic reading, writing, and mathematical skills necessary for academic success and social participation. Recognizing the urgency of this issue, the Government of India launched the **NIPUN Bharat Mission** to ensure that every child attains minimum proficiency in literacy and numeracy by Grade III.

Despite these policy initiatives, rural areas continue to face multiple challenges that hinder the effective implementation of FLN programs. These challenges include inadequate school infrastructure, shortage of trained teachers, limited availability of teaching-learning materials, and socio-economic constraints affecting students' learning outcomes. In states like West Bengal, particularly in rural districts such as **Malda**, disparities in educational resources and access to quality instruction remain a persistent concern.

The successful implementation of NEP 2020 requires not only policy directives but also effective ground-level practices, teacher preparedness, and community participation. Therefore, it is essential to examine how FLN initiatives under NEP 2020 are being implemented in rural primary schools and to identify the progress made as well as the challenges encountered.

This study aims to investigate the impact of NEP 2020 on foundational literacy and numeracy in rural primary schools of West Bengal, with special reference to Malda district. The findings of this study are expected to provide valuable insights for policymakers, educators, and administrators in strengthening the implementation of FLN programs and improving the quality of primary education in rural settings.

Recent reports (UNESCO, 2024; World Bank, 2022) highlight global learning crisis and need for FLN. ASER (2024) highlights persistent gaps in foundational learning among rural students in India. The NIPUN Bharat Mission (Government of India, 2023) emphasizes achieving universal FLN by Grade 3 through structured interventions.

2. Theoretical Framework

This study is grounded in the cognitive and socio-cultural learning theories of **Jean Piaget** and **Lev Vygotsky**, which emphasize the importance of active learning and social interaction in children's development. These theoretical perspectives provide a strong foundation for understanding how young learners acquire foundational literacy and numeracy skills in primary education.

Jean Piaget's Cognitive Development Theory highlights that children learn through stages of cognitive development and construct knowledge through interaction with their environment. According to Piaget, primary school children are typically in the *pre-operational* and *concrete operational* stages, where they develop logical thinking, language skills, and basic numerical understanding. This theory supports the use of activity-based and child-centered teaching methods promoted under the National Education Policy (NEP) 2020, particularly in developing foundational literacy and numeracy.

On the other hand, **Lev Vygotsky's Social Constructivist Theory** emphasizes the role of social interaction, language, and cultural context in learning. Vygotsky introduced the concept of the **Zone of Proximal Development (ZPD)**, which suggests that children learn best when guided by teachers, peers, or caregivers. This concept aligns closely with the collaborative learning, peer interaction, and teacher facilitation strategies encouraged in FLN programs under NEP 2020.

By integrating the theories of Piaget and Vygotsky, this study adopts a comprehensive framework that recognizes both individual cognitive development and social learning processes as essential components of effective foundational literacy and numeracy instruction in rural primary schools. These theoretical perspectives help explain how teaching practices, classroom interactions, and learning environments influence students' acquisition of basic literacy and numeracy skills.

3. Research Gap

Although several studies have examined the overall framework and policy implications of the National Education Policy (NEP) 2020 in India, limited empirical research has been conducted on its practical implementation at the grassroots level, particularly in rural primary schools. Existing literature often focuses on national or urban contexts, leaving a gap in understanding the real challenges and outcomes of Foundational Literacy and Numeracy (FLN) initiatives in rural regions.

In the context of West Bengal, especially rural districts such as **Malda**, there is a scarcity of systematic studies that assess how NEP 2020 is being implemented in primary schools and how it influences students' foundational learning outcomes. Furthermore, few studies have adopted a mixed-method approach to analyze both quantitative and qualitative aspects of FLN implementation. Therefore, this study seeks to address this gap by examining the implementation and impact of NEP 2020 on foundational literacy and numeracy in rural primary schools of West Bengal.

To evaluate FLN impact, teacher preparedness, student engagement and challenges.

4. Objectives of the Study

General Objective

To examine the impact of the National Education Policy (NEP) 2020 on Foundational Literacy and Numeracy (FLN) in rural primary schools of West Bengal, with special reference to Malda district.

Specific Objectives

1. To assess the level of implementation of FLN initiatives under NEP 2020 in rural primary schools.
2. To examine the effectiveness of teaching-learning practices related to foundational literacy and numeracy.
3. To identify the challenges faced by teachers and schools in implementing FLN programs in rural areas.
4. To evaluate the availability of infrastructure, teaching-learning materials, and teacher training related to FLN.
5. To suggest measures for improving the implementation of NEP 2020 in rural primary education.

5. Methodology

The present study adopted a **mixed-method research design** to examine the impact of the National Education Policy (NEP) 2020 on Foundational Literacy and Numeracy (FLN) in rural primary schools of West Bengal, with special reference to Malda district. The mixed-method approach was considered appropriate as it enabled the researcher to collect both quantitative and qualitative data to obtain a comprehensive understanding of the implementation and outcomes of FLN initiatives.

Research Design

A **descriptive survey method** was employed to collect data from respondents regarding the implementation of FLN programs, teaching-learning practices, and challenges faced in rural primary schools. The study combined quantitative data from structured questionnaires with qualitative insights gathered through interviews and document analysis.

Sample and Sampling Technique

The study sample consisted of **100 respondents**, including primary school teachers and head teachers from selected rural primary schools in Malda district, West Bengal. A **purposive sampling technique** was used to select schools and respondents based on their involvement in the implementation of FLN initiatives under NEP 2020.

Tools and Techniques of Data Collection

Data were collected using the following tools:

Structured Questionnaire: To gather quantitative data on teaching practices, student engagement, and availability of resources related to FLN.

Semi-structured Interviews: Conducted with teachers and school administrators to obtain qualitative insights into challenges and experiences related to NEP 2020 implementation.

Document Analysis: Official reports and guidelines from the **Samagra Shiksha Mission (2026)** and related educational documents were reviewed to support the findings.

Data Analysis Procedure

The collected data were analyzed using both **descriptive statistical techniques** and qualitative analysis methods. Quantitative data were summarized using percentages, tables, and charts to identify patterns and trends. Qualitative data from interviews and documents were analyzed through thematic analysis to understand key issues and challenges related to the implementation of FLN programs.

Ethical Considerations

The study ensured confidentiality and voluntary participation of respondents. Informed consent was obtained from all participants, and the collected data were used solely for academic and research purposes.

6. Data Analysis

The data collected from the respondents were analyzed using both quantitative and qualitative methods to examine the implementation and impact of Foundational Literacy and Numeracy (FLN) initiatives under the National Education Policy (NEP) 2020 in rural primary schools of West Bengal, with special reference to Malda district.

Quantitative Data Analysis

Quantitative data obtained from structured questionnaires were analyzed using descriptive statistical techniques such as frequency and percentage. The responses of teachers and school administrators were categorized into different themes, including student engagement, teaching-learning practices, availability of teaching-learning materials, and challenges faced in implementing FLN programs.

The analysis revealed that a majority of respondents reported positive changes in classroom practices following the implementation of FLN initiatives. Teachers indicated increased use of activity-based learning methods, improved student participation, and greater awareness of foundational literacy and numeracy skills among students. However, a significant proportion of respondents also highlighted persistent challenges such as limited infrastructure, shortage of teaching-learning materials, and inadequate training opportunities.

Qualitative Data Analysis

Qualitative data collected through interviews and document analysis were examined using **thematic analysis**. The responses were carefully reviewed to identify recurring patterns, themes, and key issues related to the implementation of NEP 2020 in rural schools. Major themes identified included teacher preparedness, resource availability, community involvement, and monitoring mechanisms.

The qualitative findings supported the quantitative results by highlighting both the progress made and the challenges encountered in implementing FLN programs in rural primary schools. Teachers emphasized the need for continuous professional development, improved infrastructure, and stronger administrative support to ensure the effective implementation of NEP 2020.

Presentation of Data

The analyzed data were presented in the form of tables, charts, and descriptive summaries to facilitate clear interpretation and understanding of the findings. These presentations helped in identifying trends and drawing meaningful conclusions regarding the effectiveness of FLN initiatives in rural primary education.

7. Discussion

The findings of the present study indicate that the implementation of Foundational Literacy and Numeracy (FLN) initiatives under the National Education Policy (NEP) 2020 has led to noticeable improvements in teaching-learning practices and student engagement in rural primary schools of West Bengal. Teachers reported increased adoption of activity-based learning methods, use of teaching-learning materials, and continuous assessment practices to monitor students' foundational skills. These changes reflect the shift toward child-centered pedagogy emphasized in NEP 2020 and related educational programs.

The results of the study are consistent with the theoretical perspectives of **Jean Piaget** and **Lev Vygotsky**, which highlight the importance of active participation and social interaction in children's learning. The increased use of group activities, peer learning, and interactive teaching strategies observed in rural classrooms aligns with these theories and supports the development of foundational literacy and numeracy skills among young learners.

However, the study also identified several persistent challenges that affect the effective implementation of FLN programs in rural areas. Limited infrastructure, shortage of trained teachers, inadequate teaching-learning materials, and irregular monitoring were reported as major barriers. These challenges are particularly evident in rural districts such as Malda, where schools often face resource constraints and socio-economic disadvantages.

Furthermore, the findings suggest that teacher training and professional development play a crucial role in ensuring the success of FLN initiatives. Teachers who received orientation and training under NEP 2020 demonstrated better understanding of child-centered pedagogy and assessment methods compared to those with limited training opportunities. This highlights the need for continuous capacity-building programs and regular academic support for teachers in rural primary schools.

Overall, the discussion underscores that while NEP 2020 has created a positive framework for improving foundational literacy and numeracy, sustained efforts in infrastructure development, teacher training, and effective monitoring are essential for achieving long-term educational outcomes in rural primary education. The integration of policy initiatives with local support systems and community participation will be critical for strengthening the implementation of FLN programs in West Bengal.

8. Implications of the Study

The findings of the present study have several important implications for educational policy, practice, and future research related to the implementation of Foundational Literacy and Numeracy (FLN) initiatives under the National Education Policy (NEP) 2020 in rural primary schools.

1. Implications for Educational Policy

The study highlights the need for policymakers to ensure effective implementation of FLN programs through adequate resource allocation, continuous monitoring, and systematic evaluation. The findings suggest that policy initiatives under NEP 2020 should be adapted to address the specific needs and challenges of rural schools. Strengthening coordination between government agencies, district education authorities, and school management committees will be essential for achieving universal foundational literacy and numeracy.

2. Implications for Educational Practice

The results emphasize the importance of adopting child-centered and activity-based teaching methods in primary classrooms. Teachers should be encouraged to use innovative instructional strategies, continuous assessment techniques, and interactive learning activities to enhance students' literacy and numeracy skills. Regular professional development and capacity-building programs can improve teachers' competence and confidence in implementing FLN initiatives effectively.

3. Implications for School Administration

School administrators and head teachers play a crucial role in ensuring the successful implementation of NEP 2020 at the school level. The study suggests that school leaders should focus on improving infrastructure, ensuring the availability of teaching-learning materials, and maintaining supportive learning environments. Effective leadership and supervision can significantly enhance the quality of teaching and learning in rural primary schools.

4. Implications for Community and Parental Involvement

The study indicates that active participation of parents and community members is vital for improving students' learning outcomes. Awareness programs and community engagement initiatives can help parents understand the importance of foundational literacy and numeracy and encourage them to support their children's education at home.

5. Implications for Future Research

The study provides a foundation for further research on the implementation of NEP 2020 and FLN programs in different educational contexts. Future studies may focus on larger sample sizes, comparative analyses between rural and urban schools, and longitudinal research to assess long-term

learning outcomes. Such research will contribute to a deeper understanding of the effectiveness of foundational education policies in India.

9. Conclusion

The present study examined the impact of the National Education Policy (NEP) 2020 on Foundational Literacy and Numeracy (FLN) in rural primary schools of West Bengal, with special reference to Malda district. The findings of the study indicate that the implementation of FLN initiatives has contributed to noticeable improvements in teaching-learning practices, student engagement, and awareness of foundational skills among primary school learners. The adoption of activity-based learning, continuous assessment, and child-centered pedagogy reflects the positive influence of NEP 2020 on classroom practices in rural schools.

Despite these positive developments, the study also identified several challenges that continue to hinder the effective implementation of FLN programs. These challenges include inadequate infrastructure, shortage of trained teachers, limited availability of teaching-learning materials, and insufficient monitoring mechanisms in rural areas. Such constraints highlight the need for sustained institutional support and resource allocation to ensure the successful realization of policy goals.

In conclusion, the success of NEP 2020 in achieving universal foundational literacy and numeracy depends on the collective efforts of policymakers, educators, school administrators, and local communities. Strengthening teacher training programs, improving school infrastructure, and ensuring regular monitoring and evaluation will be essential for enhancing the quality of primary education in rural settings. The findings of this study provide valuable insights for policymakers and educational stakeholders to design effective strategies for the long-term development of foundational education in West Bengal and similar rural contexts.

10. Limitations

While the present study provides valuable insights into the implementation of Foundational Literacy and Numeracy (FLN) initiatives under the National Education Policy (NEP) 2020 in rural primary schools, certain limitations should be acknowledged.

First, the study was conducted with a relatively small sample size of **100 respondents**, which may limit the generalizability of the findings to a broader population. Although the sample provided useful information about the implementation of FLN programs in selected rural schools, the results may not fully represent all primary schools across West Bengal or other regions of India.

Second, the study focused primarily on rural primary schools in **Malda district**, which may have unique socio-economic and infrastructural characteristics. Therefore, the findings may not be directly applicable to urban or semi-urban educational settings where resources and teaching conditions may differ significantly.

Third, the data collection relied mainly on self-reported responses from teachers and school administrators through questionnaires and interviews. Such responses may be subject to personal bias, social desirability, or differences in interpretation of questions.

Finally, the study was conducted within a limited time frame, which restricted the ability to observe long-term outcomes of NEP 2020 and FLN implementation. Future research may benefit from longitudinal studies that examine changes in foundational literacy and numeracy over an extended period.

Despite these limitations, the study offers meaningful insights into the practical implementation of NEP 2020 in rural education and provides a foundation for further research in the field of foundational learning.

Based on the findings of the present study on the implementation of Foundational Literacy and Numeracy (FLN) initiatives under the National Education Policy (NEP) 2020 in rural primary schools of West Bengal, the following recommendations are suggested to improve the effectiveness and sustainability of foundational education programs.

11. Recommendations / Suggestions

1. Strengthening Teacher Training and Professional Development

Regular and need-based training programs should be organized for primary school teachers to enhance their understanding of child-centered pedagogy, activity-based learning, and assessment methods related to foundational literacy and numeracy. Continuous professional development will help teachers adopt innovative teaching strategies and improve classroom effectiveness.

2. Improving School Infrastructure and Learning Resources

Adequate infrastructure, including well-equipped classrooms, teaching-learning materials, libraries, and digital learning resources, should be provided in rural primary schools. Ensuring the availability of essential facilities such as electricity, drinking water, and sanitation will create a conducive learning environment for students.

3. Ensuring Availability of Teaching-Learning Materials (TLM)

Government authorities and school administrations should ensure the timely supply of age-appropriate and curriculum-based teaching-learning materials to support FLN activities. The use of locally available and low-cost teaching aids can also be encouraged to enhance students' learning experiences.

4. Strengthening Monitoring and Evaluation Mechanisms

Regular monitoring and evaluation of FLN programs should be conducted by education authorities to assess progress and identify gaps in implementation. School supervisors and administrators should provide continuous academic support and feedback to teachers to maintain the quality of teaching and learning.

5. Enhancing Community and Parental Participation

Active involvement of parents and community members in school activities can significantly improve students' learning outcomes. Awareness programs, parent-teacher meetings, and community engagement initiatives should be organized to promote the importance of foundational literacy and numeracy in early education.

6. Providing Special Support for Underperforming Students

Remedial teaching programs and individualized support should be arranged for students who face difficulties in acquiring basic literacy and numeracy skills. Early identification of learning gaps will help prevent long-term academic challenges.

7. Increasing Budget Allocation for Rural Education

Adequate financial resources should be allocated for the effective implementation of NEP 2020 and FLN initiatives in rural schools. Increased funding will support infrastructure development, teacher training, and procurement of educational resources.

12. Future Scope of Research (Revised for Journal Publication)

The present study provides valuable insights into the implementation of Foundational Literacy and Numeracy (FLN) initiatives under the National Education Policy (NEP) 2020 in rural primary schools of West Bengal. However, there remains considerable scope for further research to deepen understanding and enhance the effectiveness of foundational education programs.

First, future research may be conducted with a larger sample size covering multiple districts across West Bengal or other states of India to improve the generalizability of findings. Comparative studies between rural, urban, and tribal areas can provide a broader perspective on the implementation of NEP 2020 and identify region-specific challenges and best practices.

Second, longitudinal studies may be undertaken to assess the long-term impact of FLN initiatives on students' academic achievement, retention rates, and overall learning outcomes. Such studies would help determine whether improvements in foundational literacy and numeracy are sustained over time.

Third, future research can explore the role of technology and digital learning tools in strengthening foundational literacy and numeracy in rural schools. Investigating the effectiveness of digital platforms, smart classrooms, and educational applications may provide innovative solutions for improving learning outcomes in resource-constrained settings.

Fourth, further studies may focus on teacher training programs and professional development initiatives related to FLN implementation. Evaluating the effectiveness of different training models can help identify strategies for enhancing teachers' skills and classroom practices.

Finally, future research may examine the role of parental involvement, community participation, and socio-economic factors in supporting foundational learning among primary school children. Understanding these factors will contribute to the development of more inclusive and context-specific educational policies and interventions.

13 .References

1. Government of India. (2020). *National Education Policy 2020*. Ministry of Education. New Delhi: Government of India.
2. Government of India. (2021). *NIPUN Bharat: National Initiative for Proficiency in Reading with Understanding and Numeracy*. Ministry of Education. New Delhi: Department of School Education and Literacy.
3. Ministry of Education. (2022). *Foundational literacy and numeracy: A mission for quality education*. New Delhi: Government of India.
4. Samagra Shiksha Mission. (2026). *Annual work plan and budget report*. Department of School Education, Government of West Bengal.
5. West Bengal Board of Primary Education. (2023). *Guidelines for implementation of foundational literacy and numeracy in primary schools*. Kolkata: Government of West Bengal.
6. UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. Paris: UNESCO Publishing.
7. UNICEF. (2020). *Foundational learning: Improving learning outcomes for children in primary education*. New York: UNICEF.
8. World Bank. (2018). *World development report 2018: Learning to realize education's promise*. Washington, DC: World Bank.
9. Jean Piaget. (1952). *The origins of intelligence in children*. New York: International Universities Press.
10. Lev Vygotsky. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
11. ASER Centre. (2023). *Annual status of education report (rural) 2023*. New Delhi: Pratham Education Foundation.
12. National Council of Educational Research and Training (NCERT). (2022). *Learning outcomes at the elementary stage*. New Delhi: NCERT.