Perceptions And Awareness Of Elementary Teachers On Foundational Literacy And Numeracy In The Context Of Nep 2020

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ABSTRACT

The present study examines the level of awareness, perception, and preparedness of elementary teachers in Ganjam district, Odisha, toward implementing Foundational Literacy and Numeracy (FLN) as emphasized in India's National Education Policy (NEP) 2020 and NIPUN Bharat Mission. Using a descriptive survey design, data were collected from 150 teachers through a validated awareness and perception scale, along with semi-structured interviews from 50 participants. The findings revealed that more than half of the teachers exhibited moderate awareness of FLN concepts and NEP 2020 provisions, while one-third demonstrated high awareness. Female teachers and those with less than ten years of experience showed significantly higher awareness and readiness levels. Although teachers displayed generally positive perceptions toward FLN, they reported practical challenges such as inadequate teaching-learning materials, large class sizes, and insufficient follow-up support. Qualitative insights emphasized the need for continuous professional development, contextualized assessment tools, and stronger parental involvement. The study concludes that sustained teacher training, academic mentoring, and adequate institutional resources are essential to effectively translate NEP 2020's foundational learning goals into classroom practice, thereby ensuring that every child achieves basic literacy and numeracy competencies by Grade 3.

Keywords: Foundational Literacy and Numeracy, NEP 2020, NIPUN Bharat, Teacher Perception, Elementary Education, Ganjam District, Odisha

I. Introduction

Education is the foundation of human development and national progress. Among its most critical components is the acquisition of Foundational Literacy and Numeracy (FLN)—the ability to read with understanding and perform basic mathematical operations. The National Education Policy (NEP) 2020 of India emphasizes that attaining universal FLN for all children by Grade 3 is the highest and most urgent priority of the education system (Ministry of Education [MoE], 2020). Without achieving these foundational skills in the early years, subsequent learning becomes fragile and cumulative learning deficits widen over time (NCERT, 2021).

Recognizing the gravity of this issue, the Government of India launched the National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) in 2021 to operationalize NEP 2020's FLN mission. The initiative aims to ensure that every child in Grades 1–3 acquires the basic competencies of literacy and numeracy by 2026–27 through structured pedagogy, teacher capacity building, learning materials, and continuous assessment (MoE, 2021).

Teachers play a pivotal role in realizing this vision. Their awareness, attitudes, and instructional practices determine how effectively FLN is translated from policy to classroom practice (UNESCO, 2022). Studies have shown that teacher understanding of grade-wise competencies, diagnostic assessments, and remedial strategies significantly influences early learning outcomes (Banerjee & Mukherjee, 2020; ASER Centre, 2022). However, many teachers still lack sufficient conceptual clarity and practical training related to FLN pedagogy, particularly in rural and resource-constrained settings (Kaul & Gupta, 2021).

Odisha, one of India's eastern states, has made notable progress in primary education access and literacy rates, yet disparities persist across districts. Ganjam—Odisha's largest district by population—features diverse socio-economic conditions, varying school infrastructure, and a high proportion of rural learners (Government of Odisha, 2023). These contextual factors influence how effectively FLN initiatives are implemented at the grassroots level.

Understanding teachers' perceptions and awareness in this district is crucial because teachers serve as the first point of policy implementation. Their comprehension of NEP 2020 and NIPUN Bharat guidelines, their readiness to adapt pedagogy, and their perception of institutional support directly impact classroom instruction and early learning outcomes. Moreover, district-specific empirical studies on FLN implementation remain limited in Odisha, making this investigation both timely and policy-relevant.

The present study, therefore, seeks to explore the level of awareness and perception among elementary teachers of Ganjam district regarding the concept, objectives, and practices of FLN as outlined in NEP 2020. It also examines how factors such as training exposure, experience, and resource availability shape teachers' confidence and classroom strategies. By analyzing these dimensions, the study aims to provide actionable insights for district and state education authorities to strengthen teacher capacity-building and FLN delivery mechanisms.

Ultimately, the study contributes to the broader national goal of transforming India's education landscape by ensuring that every child attains foundational learning by Grade 3, as envisioned in NEP 2020.

II. Review of Literature

Foundational Literacy and Numeracy (FLN) refer to the basic ability of children to read with comprehension, write meaningfully, and perform fundamental arithmetic operations by the end of Grade 3 (Ministry of Education [MoE], 2021). These competencies form the foundation of all future learning; without achieving them in the early years, children face significant challenges in acquiring higher-order cognitive and academic skills (NCERT, 2021).

A review of existing literature offers both conceptual clarity and research-based insights for analyzing teachers' perceptions and awareness of Foundational Literacy and Numeracy (FLN) within the framework of India's National Education Policy (NEP) 2020. The following subsections examine the evolution of FLN, policy initiatives in India, teacher awareness and pedagogical practices, and the specific context of Odisha. Accordingly, this review is organized around four key themes: (i) the evolution and conceptualization of FLN in global and national discourse, (ii) major policy initiatives and programmatic interventions undertaken in India, (iii) research on teacher awareness, pedagogical practices, and professional preparedness for implementing FLN, and (iv) the regional context of Odisha, where socio-economic and infrastructural factors shape the ground realities of FLN implementation. Together, these dimensions provide a comprehensive

foundation for understanding how teachers interpret and operationalize the NEP 2020 vision of universal foundational learning by Grade 3.

Global research emphasizes that strong Foundational Literacy and Numeracy (FLN) skills serve as the foundation for lifelong learning and future employability (UNESCO, 2022). Children who develop basic reading, writing, and arithmetic competencies in the early grades are better prepared to engage with higher-order learning, critical thinking, and evolving educational or occupational demands. In contrast, insufficient FLN skills often result in persistent learning gaps that compound over time, adversely affecting academic progression and long-term cognitive development.

In the Indian context, the Annual Status of Education Report (ASER, 2022) highlights that although school enrolment rates have steadily increased, the foundational literacy and numeracy outcomes among primary school children have shown only limited improvement (ASER Centre, 2022). Similar findings have been reported by NCERT (2021) and the National Council of Educational Research and Training, which emphasize that inadequate teacher training, insufficient use of child-centered pedagogical approaches, and weak monitoring mechanisms continue to constrain effective learning at the foundational stage (Banerjee & Mukherjee, 2020; Kaul & Gupta, 2021). Consequently, improving FLN outcomes requires systematic teacher capacity-building, the adoption of evidence-based instructional strategies, and continuous assessment to identify and address learning gaps (UNESCO, 2022; ASER Centre, 2022).

The National Education Policy (NEP) 2020 marks a transformative change in India's education system, emphasizing that universal Foundational Literacy and Numeracy (FLN) by Grade 3 is the highest priority, forming the foundation for all subsequent learning (MoE, 2020). To operationalize this vision, the Government of India launched the National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) in 2021, providing guidelines for learning outcomes, teacher capacity building, assessment, and community engagement (MoE, 2021). The framework emphasizes mother tongue-based instruction, continuous formative assessment, and activity-based, joyful learning as essential strategies for early-grade education (NCERT, 2021).

Effective implementation of FLN initiatives depends heavily on teachers' understanding of grade-wise competencies, pedagogical methods, and assessment tools (EAC–PM, 2023; Kaul & Gupta, 2021). Research across India indicates that many elementary teachers possess limited conceptual clarity, often conflating FLN with general language or arithmetic instruction (Banerjee & Mukherjee, 2020; Reddy, 2021). Targeted FLN training enhances teacher confidence, adoption of child-centered approaches, and effective assessment practices, whereas untrained teachers often rely on rote learning and textbook-driven methods (Kaul & Gupta, 2021). Despite generally positive attitudes toward NEP 2020, teachers face systemic barriers such as heavy workloads, large class sizes, limited time for individualized assessment, and inadequate parental involvement (Kaur & Awasthi, 2022; ASER, 2022). Studies also highlight the importance of teacher motivation and continuous professional development (CPD), combining theory with classroom practice, to improve instructional quality and early learning outcomes (UNESCO, 2022; Darling-Hammond et al., 2017).

At the state level, Odisha has proactively aligned its educational initiatives with NEP 2020 and NIPUN Bharat goals. The State Council of Educational Research and Training (SCERT, Odisha) and Odisha School Education Program Authority (OSEPA) have implemented comprehensive FLN training for teachers, distributed teaching-learning materials (TLMs), and organized state-level exhibitions to promote innovative pedagogical practices (SCERT Odisha, 2023). Evaluation studies indicate significant improvements in teacher awareness and instructional practices, although disparities persist between urban, rural, and tribal districts due to limited resources and inconsistent mentoring (Das & Behera, 2023). Under the Samagra Shiksha Abhiyan, the State Project Management Unit has conducted additional teacher training programs aligned with NIPUN Bharat (OPEPA, 2022). At the district level, Ganjam has implemented localized teacher capacity-building workshops and community-based reading campaigns (Youth for Social Development [YSD], 2023). While positive changes in classroom engagement and early reading outcomes have been reported, uneven teacher

awareness, insufficient TLMs, and limited ongoing professional support remain challenges (DIET Ganjam, 2024). These variations underscore the importance of empirically examining teachers' perceptions and awareness of FLN in the socio-educational context of Ganjam.

The reviewed literature underscores the centrality of teacher awareness, attitudes, and pedagogical capacity in achieving FLN goals under NEP 2020. While several national and state-level reports have analyzed policy and programmatic implementation, limited district-level research has been conducted in Odisha, particularly focusing on the perceptions of elementary teachers.

Existing studies primarily emphasize learning outcomes of students, with insufficient attention to teachers' readiness and professional challenges in rural districts. Hence, the current study seeks to fill this gap by systematically investigating teachers' perceptions and awareness of FLN in the Ganjam district. The findings aim to provide actionable insights for capacity-building, curriculum alignment, and policy implementation at the grassroots level.

III. OBJECTIVES OF THE STUDY

➢ To assess the level of awareness of elementary teachers about the concept and goals of Foundational Literacy and Numeracy (FLN) as outlined in NEP 2020.
➢ To study teachers' perceptions regarding the implementation of FLN practices in elementary schools.
➢ To examine differences in awareness and perception among teachers based on demographic variables such as gender and teaching experience.
➢ To identify major challenges perceived by teachers in implementing FLN strategies in the classroom.
➢ To suggest policy and training recommendations for strengthening FLN implementation in the Ganjam district.

3.1 Hypotheses

Based on the objectives and review of literature, the following null hypotheses were formulated for empirical testing:

✓ **H_{01}:** There is no significant difference in teachers' awareness of FLN with respect to gender.
✓ **H_{02}:** There is no significant difference in teachers' perception of FLN implementation with respect to teaching experience.

IV. RESEARCH METHODOLOGY

The study employed a descriptive survey design, which is appropriate for assessing attitudes, opinions, and levels of awareness among a defined population. This design helps capture a cross-sectional view of how teachers perceive and implement the NEP 2020's FLN goals in real classroom contexts.

The quantitative method was primarily used to collect and analyze numerical data, supported by qualitative responses to open-ended questions to capture teachers' experiences and suggestions.

4.1 Population and Sample

The population of the study included all elementary school teachers (Classes I–V) working in Ganjam district of Odisha. The district comprises both rural, urban and semi-urban educational settings, making it a representative site for understanding FLN implementation in diverse contexts.

A total of 150 elementary school teachers were selected as the study sample using stratified random sampling to ensure representation across key demographic and contextual factors:

- Teachers from both rural and urban blocks of Ganjam district
- Variation in gender and teaching experience

Delimitations of the Study

- The study was confined to selected blocks of Ganjam district and may not be generalized to the entire state.
- Only elementary school teachers (Classes I–V) were included.
- The study primarily measured self-reported perceptions and awareness, which may differ from actual classroom practices.
- Resource constraints limited the sample size to 150 teachers.

The final sample distribution is shown below:

School Type	Male Teachers	Female Teachers.	Total
Government	66	84	150

4.2 Tools and Instruments Used

The study employed specifically developed and validated research instruments to assess teachers' awareness and perceptions regarding Foundational Literacy and Numeracy (FLN).

4.2.1 Teachers' Awareness Scale on Foundational Literacy and Numeracy (TAS–FLN) is followed to measure teachers' understanding of FLN concepts, objectives, NEP 2020 provisions, pedagogical approaches, assessment strategies, and NIPUN Bharat guidelines. The scale comprised 20 items, including multiple-choice and Likert-type questions, allowing both objective and attitudinal responses. Content validity of the scale was established through expert review by academicians and FLN specialists. A pilot study was conducted to test clarity, reliability, and feasibility, ensuring the instrument's suitability for the target population.

4.2.2 A qualitative approach was employed o explore teachers' perceptions regarding the implementation of Foundational Literacy and Numeracy (FLN), using a semi-structured interview schedule. The interviews were conducted with 50 randomly selected teachers from the larger sample. The interview protocol focused on several key domains, including:

- Classroom practices and instructional strategies
- Use and availability of teaching-learning resources (TLMs)
- Assessment methods for monitoring student progress
- Institutional support and mentoring

This qualitative instrument aimed to capture teachers' experiences, identify challenges in implementing FLN, and gather their suggestions for enhancing classroom practices. The semi-structured format provided the flexibility to explore individual perspectives while maintaining consistency across participants, thereby yielding rich and context-specific insights into FLN implementation at the elementary level.

4.3 Data Collection Procedure

Data were collected during the academic year 2024–25. Prior permission was obtained from the District Education Officer (DEO), Ganjam, and consent was sought from the heads of institutions and individual teachers. The researcher personally visited selected schools to administer questionnaires, ensuring clarity of instructions and voluntary participation. Confidentiality of responses was maintained, and data were used solely for academic purposes. All participants were informed about the purpose of the study, and their consent was secured prior to participation. Anonymity and confidentiality were maintained throughout. The study adhered to the ethical principles of voluntary participation, beneficence, and academic integrity.

4.3.1 Statistical Techniques used

Both quantitative and qualitative techniques were employed to analyze the collected data:

4.3.1.1 Quantitative Analysis:

Descriptive statistics (mean, standard deviation, and percentage analysis) were used to summarize teachers' awareness scores and demographic distribution.

Inferential statistics (t-test) were applied to examine differences in awareness and perception based on gender and teaching experience. The significance level was set at 0.05.

4.3.1.2 Qualitative Analysis:

Data from semi-structured interviews were analyzed using thematic content analysis to identify recurring patterns, challenges, and suggestions for FLN implementation.

Themes were organized around classroom practices, instructional methods, resource utilization, assessment strategies, and institutional support, providing contextual insights into teachers' perceptions and practical experiences.

This mixed-methods approach allowed a comprehensive understanding of both teachers' awareness levels and perceptions of FLN implementation, integrating statistical evidence with qualitative depth.

V. DATA ANALYSIS AND INTERPRETATION

This section presents the statistical analysis of data collected from 150 elementary teachers in Ganjam district to examine their awareness and perceptions regarding Foundational Literacy and Numeracy (FLN) in the context of NEP 2020. The results are presented objective-wise.

5.1 Objective: To Assess the Level of Awareness of Elementary Teachers about FLN

Teachers' awareness scores on the Teachers' Awareness Scale on FLN (TAS–FLN) were analyzed using descriptive statistics.

Level of Awareness	Score Range	Number of Teachers	Percentage (%)
High Awareness	61–80	49	32.7%
Moderate Awareness	41–60	78	52.0%
Low Awareness	20–40	23	15.3%
Total	—	150	100%

Interpretation:

Over half of the teachers (52%) demonstrated moderate awareness regarding FLN concepts and NEP 2020 provisions. About one-third showed high awareness, indicating growing understanding through initiatives like NIPUN Bharat. However, 15% of respondents still exhibited low awareness, suggesting the need for targeted capacity-building workshops.

5.2 Objective: To Study Teachers' Perceptions Regarding Implementation of FLN

Teachers' responses on the Teachers' Perception were categorized into three levels.

Level of Perception	Score Range	Number of Teachers	Percentage (%)
Highly Positive	81–100	41	27.3%
Moderately Positive	61–80	85	56.7%
Low/Neutral	40–60	24	16.0%
Total	—	150	100%

Interpretation:

A majority of teachers (57%) exhibited moderately positive perceptions toward FLN implementation. They appreciated the emphasis on joyful and experiential learning but expressed concerns about workload, lack of teaching aids, and large class sizes affecting implementation.

5.3 Objective: Differences in Awareness and Perception by Gender, Experience,

a. Gender-wise Comparison of Awareness

Gender	N	Mean	SD	t- value
Male	66	68.72	6.45	2.36
Female	84	71.04	5.92	

Interpretation

The obtained t-value (2.36) exceeds the critical t-value (≈1.98) at the 0.05 level of significance.
Female teachers (Mean = 71.04) have higher awareness than male teachers (Mean = 68.72) regarding objectives, classroom strategies, assessment, and implementation aspects of FLN.
This result indicates that female teachers are more sensitized and involved in implementing foundational literacy and numeracy program, possibly due to their greater representation in early grade teaching.

The null hypothesis stating that "There is no significant difference in teachers' awareness of FLN with respect to gender "is rejected. Therefore, it can be concluded that gender has a significant influence on teachers' awareness of FLN.

b. Experience-wise Comparison of Awareness

Experience (Years)	N	Mean	SD	t- value
Below 10 years	78	72.4	6.12	2.48
Above 10 years	72	68.1	5.73	

Interpretation:

The calculated t-value (2.48) is greater than the table value at 0.05 level of significance, indicating a significant difference in awareness levels based on teaching experience. Teachers with less than 10 years of experience demonstrated higher awareness and adaptability toward the FLN framework and NEP 2020 initiatives. This may be attributed to their recent participation in orientation programs and their greater exposure to new pedagogical reforms.

The null hypothesis stating "There is no significant difference in teachers' perception of FLN implementation with respect to teaching experience. is rejected. Therefore, it can be concluded that experience has a significant influence on teachers' awareness of FLN.

5.4 Perception analysis

From semi-structured interviews of 50 teachers, the following themes emerged:

Teachers have a overall positive perception of FLN and are motivated to implement its practices, but effectiveness is constrained by resource limitations, inadequate follow-up support, and systemic challenges.

1. Classroom Practices: Teachers use storytelling, rhymes, and activity-based learning to engage students, but managing multi-grade classrooms remains challenging.

2. Instructional Methods: Play-based and experiential approaches are preferred, aligning with NEP 2020; however, some teachers rely on traditional methods due to time constraints.

3. Instructional Resources: NIPUN Bharat kits and local teaching aids are helpful, but shortages, damage, and limited replenishment pose challenges.

4. Assessment Strategies: Continuous and informal assessments are valued for tracking progress; simpler, grade-appropriate assessment tools are needed.

5. Institutional Support: Initial training on FLN was useful, but follow-up mentoring is limited; supportive head teachers and CRCC visits enhance effective implementation.

6. Challenges: Large class sizes, low parental involvement, multilingual learners, and heavy assessment workload impede FLN outcomes.

7. Suggestions: Teachers recommend regular refresher trainings, adequate TLMs, smaller class sizes, stronger parent engagement, and closer mentoring support

VI. RESULT & DISCUSSION

The present study sought to explore elementary teachers' perceptions and awareness of Foundational Literacy and Numeracy (FLN) in the context of NEP 2020 within Ganjam district, Odisha. The findings reveal a nuanced picture of teacher readiness, attitudes, and systemic challenges in translating policy into classroom practice.

A majority of teachers demonstrated moderate to high awareness of FLN objectives, reflecting the growing dissemination of NEP 2020 and NIPUN Bharat initiatives. However, the presence of a significant proportion (15%) with low awareness underscores persistent gaps in conceptual clarity and policy communication. This finding resonates with Kaul and Gupta (2021) and Banerjee and Mukherjee (2020), who reported that while teachers are generally aware of national FLN priorities, their understanding of grade-wise learning outcomes and pedagogical frameworks remains partial.

The gender-wise analysis revealed that female teachers exhibited significantly higher awareness compared to their male counterparts. This may be attributed to the predominance of female teachers in early-grade teaching, their greater participation in foundational learning workshops, and their pedagogical orientation toward nurturing and literacy-focused instruction. The result affirms earlier findings that female teachers often demonstrate stronger engagement in early literacy programs (UNESCO, 2022).

Interestingly, teachers with less than 10 years of experience displayed higher awareness and adaptability toward FLN strategies than their more experienced peers. This pattern may be due to younger teachers' recent exposure to NEP 2020-aligned training and greater familiarity with child-centered pedagogical approaches. The finding aligns with studies by Reddy (2021) and Kaur and Awasthi (2022), who found that newly inducted teachers tend to be more responsive to educational reforms and innovative classroom practices.

In terms of perception, most teachers exhibited moderately positive attitudes toward FLN implementation, recognizing its importance for improving early learning outcomes. They appreciated the emphasis on joyful, activity-based learning as recommended under NEP 2020. However, several contextual barriers—including inadequate teaching-learning materials (TLMs), large class sizes, limited parental engagement, and insufficient follow-up mentoring—were consistently cited as obstacles. These constraints reflect systemic issues noted in national surveys such as ASER (2022) and EAC–PM (2023), which highlighted the mismatch between policy ambition and on-ground resource realities.

The qualitative insights further revealed a strong willingness among teachers to adopt play-based and experiential learning strategies but limited institutional support to sustain such innovations. The sporadic nature of in-service training and lack of consistent academic mentoring reduce teachers' confidence in implementing diagnostic assessments and remedial strategies effectively. Teachers also emphasized the need for simplified, grade-appropriate assessment tools and continuous professional development (CPD) opportunities—a point reinforced by Darling-Hammond et al. (2017), who argue that sustained, practice-based professional learning is crucial for pedagogical transformation.

Overall, the discussion suggests that while policy awareness and positive intent exist among teachers, implementation effectiveness depends heavily on systemic enablers—ongoing training, supportive supervision, adequate learning resources, and community partnership. Strengthening these dimensions is essential to bridge the gap between NEP 2020's policy vision and actual classroom practice.

VII. CONCLUSION

The study concludes that elementary teachers in Ganjam district exhibit a moderate level of awareness and a generally positive perception of Foundational Literacy and Numeracy (FLN) as envisioned under NEP 2020. However, disparities exist based on gender and teaching experience, indicating the need for differentiated professional development strategies.

Teachers' enthusiasm for implementing FLN principles is evident, but their efforts are constrained by systemic challenges such as insufficient training, inadequate TLMs, large class sizes, and limited parental participation. Teachers with prior FLN training demonstrate greater confidence, creativity, and adherence to NEP-aligned pedagogical practices, underscoring the transformative potential of targeted capacity-building initiatives.

The findings underscore that achieving universal FLN by 2026–27 requires not only policy awareness but also sustained institutional support. Effective implementation hinges on ensuring that teachers receive continuous, need-based professional development, that resource support is adequate and accessible, and that school-community collaboration is strengthened to reinforce learning beyond the classroom.

Implications and Recommendations

Based on the findings, several key recommendations emerge:

1. **Continuous Professional Development (CPD):**
   Organize regular, practice-oriented FLN training sessions with follow-up mentoring and peer-learning opportunities to enhance teachers' pedagogical competence.

2. **Resource Support:**
   Ensure timely supply and replenishment of Teaching-Learning Materials (TLMs), particularly in rural and resource-poor schools.

3. **Classroom Support and Mentoring:**
   Strengthen the role of Cluster Resource Centre Coordinators (CRCCs) and headteachers in providing academic guidance, feedback, and classroom observation-based support.

4. **Parental and Community Engagement:**
   Conduct awareness campaigns and school-based literacy drives to enhance parental involvement in children's early learning.

5. **Assessment Reform:**
   Develop simple, contextualized assessment tools for monitoring early literacy and numeracy skills, enabling teachers to identify learning gaps effectively.

6. **Policy and Administrative Support:**
   District education authorities should adopt data-driven planning to identify low-performing schools and design targeted interventions for teacher support and resource allocation.

Future Research Directions

Future studies may explore longitudinal impacts of FLN training on classroom practices and student outcomes. Comparative analyses across districts or states could reveal contextual variations in implementation. Further, classroom observation-based research could provide deeper insights into the alignment between teacher perception and actual instructional behavior.

The success of NEP 2020's vision of "universal foundational learning for all by Grade 3" ultimately rests in the hands of teachers. Empowering them through sustained training, institutional support, and community partnership will be key to transforming India's foundational learning landscape. The findings from Ganjam district serve as a microcosm of the national challenge—translating well-intentioned policy into tangible classroom success.

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