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Navigating change: Preparatory teachers' responses to India's foundational literacy and numeracy programme

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Abstract
This study examines the perceptions of preparatory school teachers in Puri District, Odisha, toward India's Foundational Literacy and Numeracy (FLN) programme, a key component of the National Education Policy (NEP) 2020 and the NIPUN Bharat Mission. Using a self-developed perception scale, data were collected from 88 teachers across 20 schools, encompassing both male and female preparatory school teachers as well as teachers with different teaching experiences. The findings revealed that teachers generally hold favourable views of the FLN programme, recognising its contribution to students' cognitive development, cultural awareness, communication skills, and overall academic growth. Female teachers reported more positive perceptions than male teachers, particularly regarding personal development, cultural awareness, and communication skill enhancement. Similarly, less experienced teachers reported more favourable perceptions than highly experienced teachers, especially in relation to implementation support and perceived value for students' development. The study highlights strengths in the programme's ability to enhance basic literacy skills and foster positive attitudes toward learning, while identifying weaker perceptions in areas such as numerical ability and openness to diversity. Recommendations include strengthening teacher training, improving resource availability, and fostering collaborative environments for sharing best practices.

Keywords: Foundational Literacy and Numeracy Programme, NIPUN Bharat Mission. National Education Policy (NEP) 2020, Preparatory Teachers, Perception

Introduction
The Indian Constitution provides the right to every child to have their basic education. There are various schemes to improve the elementary education in our country, such as the Sarva Siksha Abhiyan (SSA), Samagra Shiksha, and the foundational literacy and numeracy Programme, which are three major government programmes in India that aim to improve the elementary education of every child. But a significant number of children in India, particularly in rural and underserved areas, still face challenges in basic literacy and numeracy. Students who struggle with reading and math from an early stage are more likely to drop out (Tomar & Malik, 2024) [30]. Academic failure and early dropout are possible outcomes for students who fail to obtain sufficient listening and language skills during the early stages of their lives. Assisting these children during the foundational stage to overcome their developmental deficits may help them avoid future learning difficulties. To support teachers at the foundational phase in their work, a continued professional development CPD program was designed to provide ongoing professional development opportunities (Wium & *et al*., 2011) [33]. Therefore, the effectiveness of teaching basic literacy and numeracy relies heavily on teachers' perception, or cognitive interpretation, of their students' abilities, needs, and instructional strategy (Toman & Malik, 2024) [30].

The Foundational Literacy and Numeracy Programme (FLNP) is a critical initiative that is designed to guarantee that all children have the fundamental skills of reading, writing, and arithmetic by the end of Grade 3. The FLNP has been identified as a critical component of early education reforms in numerous countries, including India, as part of the National Education Policy (NEP) 2020 (Ministry of Education, 2020) [14]. The FLNP is perceived by preparatory instructors as a multifaceted framework that encompasses both opportunities and challenges, as they are the first formal point of contact in a child's educational journey. Although numerous educators commend the program for its emphasis on enhancing learning outcomes, they also encounter challenges in its execution, including socio-linguistic barriers in classrooms and insufficient resources and training (World Bank, 2021; Banerji, 2022) [35,

[3]. Preparatory teachers, acting as the initial formal contact in a child's educational progress, view the FLNP as a complex framework that includes both opportunities and problems. Many educators praise the program for its focus on outcome-based learning and early intervention, aligning with worldwide educational best practices (UNESCO, 2021) [31]. Conversely, they face numerous implementation obstacles that hinder their efficacy. Factors encompass inadequate training, absence of age-appropriate resources, excessive numbers of students, linguistic variety, and a limited understanding of child development among particular teachers (Pritchett, 2019; Sriprakash, 2020) [23, 28]. Furthermore, the pressure that is placed on schools to reach set learning targets under rigorous deadlines frequently comes into conflict with the realities of under-resourced schools, particularly in economically disadvantaged populations and rural areas (World Bank, 2021) [35]. As a consequence of this, many preparatory teachers view the FLNP as a complicated environment that necessitates not only the acceptance of policy aims but also the adaptation to local settings and the restrictions of the classroom. The intricacy of this situation is exacerbated in multilingual settings, where children may not be proficient in the language of instruction, which in turn exacerbates early learning disparities (Nag *et al*., 2019) [19].

Theoretical Background

National Education Policy (NEP) 2020: The National Education Policy (NEP) 2020 introduced a significant shift in the school education structure in India. A new school structure consisting of 5+3+3+4 was implemented as part of the National Education Policy (NEP) 2020, which replaced the previous 10+2 system. According to the stages of cognitive development that children go through, this new structure is as follows:

- The Foundational Stage, which spans from three to eight years, includes three years of preschool and grades one through two, with an emphasis on learning through play.
- Ages 8-11, grades 3-5, and classroom instruction that is both activity-based and participatory make up the Preparatory Stage, which lasts for three years.
- Ages 11-14, grades 6-8, and the introduction of subject-specific instruction and critical thinking define the middle stage, which lasts for three years.
- Secondary Stage covers the years 14-18, grades 9-12, and provides students with a wide range of subject options that are flexible and multidisciplinary.

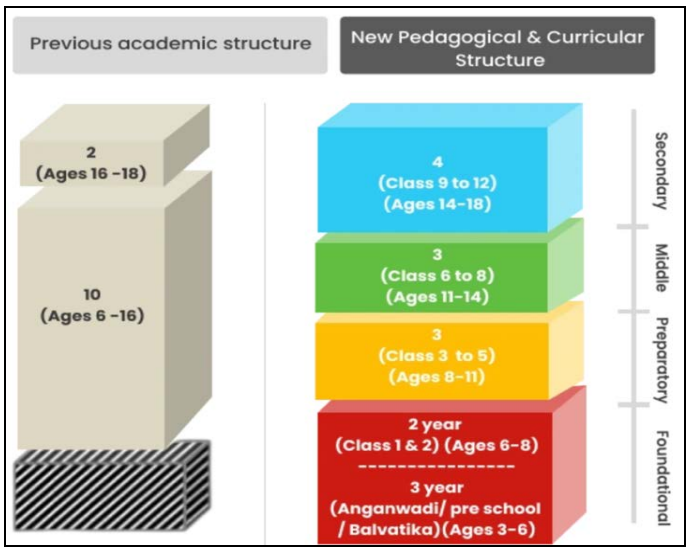

Fig 1: Stages of education (Source: NEP 2020)

A child's early years are essential for setting up the foundation for their future education and growth. The significance of Foundational Literacy and Numeracy (FLN) is emphasised in the National Education Policy (NEP) 2020 in accordance with this. These abilities, which include fundamental reading, writing, and arithmetic, are critical to each child's academic progress and long-term success. Comprehensive programs like NIPUN Bharat Mission have been implemented in India to meet the challenge of ensuring that all students attain foundational literacy and numeracy by the end of Grade 3. This objective seeks to guarantee that foundational skills are securely developed and to offer universal access to high-quality early childhood education.

Foundational Literacy and Numeracy (FLN): Foundational Literacy and Numeracy (FLN) refers to the fundamental skills in reading, writing, and arithmetic. Foundational Literacy includes the capacity to comprehend written material, present thoughts clearly in writing, and critically assess information. Competent teachers play an important role in significantly enhancing children's ability to read within this system. Consequently, teachers must receive adequate training in reading instructions (Quimson, 2022). Foundational numeracy encompasses mastery of numerical concepts, arithmetic operations, and the capacity to apply these skills to real-world situations. Numeracy is an essential element of learning, performance, discourse, and critique throughout the entire curriculum in educational settings (Louden *et al*., 2005) [11]. In order to establish an excellent framework for future learning and growth, the FLN development goals are thoughtfully designed. Teachers, curriculum designers, and policymakers can use these objectives as a framework to ensure students get the help they need to reach these basic standards.

The main goal of FLN includes;

1. **Reading comprehension:** Enhancing the capacity to understand written texts, encompassing the understanding of key concepts, vocabulary, specifics,

and context.

2. **Writing Skills:** Developing the ability to express thoughts and ideas appropriately in writing, including grammar, punctuation, spelling, and structure.
3. **Phonics and phonemic awareness:** Addressing the relationship between letters and sounds, fostering the ability to decode words, and identifying phonetic letters.
4. **Critical thinking and analysis:** Fostering the ability to critically analyse texts, retrieve information, and engage in critical thinking to formulate reasonable conclusions.

With FLN, students are able to read more fluently and understand the sizes and forms of their fellow learners. It offers great tools for both teachers and pupils. The method relies on activity-based education and play. An essential part of the new education strategy is the emphasis on foundational literacy and numeracy (FLN). This will help prepare the way for a better future in which all students succeed and reach their maximum potential by guaranteeing that all learners have access to an excellent educational foundation. There is widespread recognition that FLN is an important measure of the quality of early education systems around the world. Children have a difficult time keeping up with more complicated concepts in later grades if they do not have strong fundamental abilities. This results in poor learning outcomes, increased dropout rates, and long-term socioeconomic disadvantages (UNESCO, 2021). According to research conducted by the World Bank in 2021, students who do not attain basic literacy and numeracy skills at an early age frequently never find a way to catch up.

Within the framework of the Indian education system, the National Education Policy (NEP) 2020 has placed an emphasis on FLN as the most important priority of the teaching and learning process. The National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat Mission) was set up as part of the policy. Its goal is to make sure that all children can read and do maths by the end of third grade by 2026-27 (Ministry of Education, 2021) [14]. Foundational literacy and numeracy are the main components of FLN programme. The description of these two components is given in the following diagram;

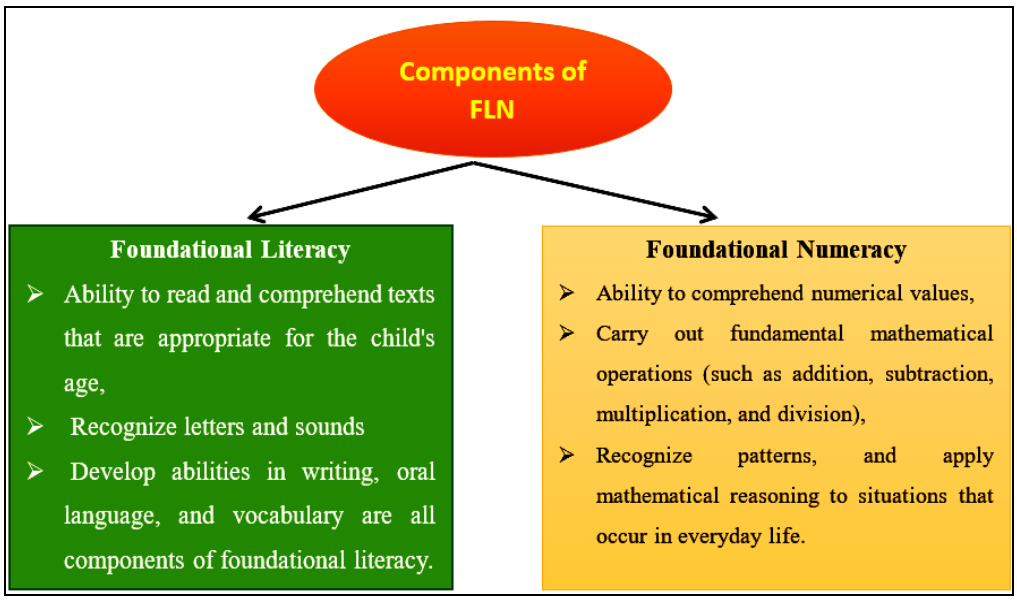

Fig 2: Components of FLN programme

Challenges in Achieving FLN

Despite the impetus of policy, there are various obstacles that prevent FLN from being achieved:

- Lack of quality TLMs and multilingual resources
- Inadequate teacher training and support
- Large class sizes and a lack of individual attention
- Poor early childhood education foundation
- Socio-economic and gender disparities in learning outcomes

NIPUN Bharat Mission

The Government of India has launched several key initiatives to strengthen Foundational Literacy and Numeracy (FLN)**,** recognising that these skills are essential for a child's future learning and academic success. The focus on FLN is also a major recommendation of the National Education Policy (NEP) 2020**.** The Ministry of Education launched the NIPUN Bharat Mission on July 5, 2021. NIPUN stands for the National Initiative for Proficiency in Reading with Understanding and Numeracy. This mission is the flagship effort for the Freedom Learning Network (FLN).

Main objectives

- By the conclusion of the third grade, by the year 2026-27, it is imperative that every kid in India has achieved the fundamental literacy and numeracy skills.
- Pay attention to children between the ages of three and nine, from pre-primary to third grade.
- Reading, comprehension, and fundamental mathematics skills should be encouraged from an early age.

The state of Odisha has undertaken a number of government projects, one of which is the NIPUN Bharat Mission, with the goal of enhancing first-language acquisition (FLN) among young learners. On the other hand, inequities continue to exist as a result of socioeconomic and infrastructure constraints, which have an impact on the outcomes of learning opportunities for various demographic groups. In an effort to close critical learning gaps at the grassroots level, Odisha has recently implemented FLN

initiatives, showing a dedication to improving foundational education throughout the region. The program aims to develop basic reading, writing, and math skills in young children, mainly in Classes 1-3. Literacy and numeracy, or FLN, are the building blocks of a child's education; they allow them to read, write, and do simple math. A child's total academic achievement and future success are heavily dependent on their ability to acquire and apply these abilities effectively. The National Education Policy (NEP) 2020 has made it a priority to achieve FLN by the end of the third grade in order to guarantee that all students have access to a quality education.

Significance of the Study

Academic success and lifelong learning are predicated on the development of basic literacy and numeracy skills in primary education. These fundamental skills not only help students comprehend and communicate effectively, but they also provide them with the numerical fluency they need to thrive in a range of real-world scenarios and in their future academic pursuits. Teachers play a crucial role in assisting students in learning and mastering these fundamental skills in the elementary school setting. The key to a student's success lies with the teacher (Tomar & Malik, 2024) [30]. Since teachers know their students better than anybody else, their perspective was the focus of the study. Highlights the learning crisis in India, where many students lack basic skills like reading and numeracy (FLN) (Neem, 2024). Intermediate grade teachers placed considerably more emphasis on student participation compared to primary grade teachers. An elementary school teacher emphasised the importance of daily guided student participation in reading and phonics instruction in creating an ideal reading environment. This engagement helps children improve comprehension and fluency (Manak & *et al*., 2022) [12]. Teachers make use of perception to see and engage with their students, which help them make decisions about how to teach, how the classroom works, and, in the end, how well their students perform. Despite its significance, perception remains an underexplored area in elementary education research, particularly regarding its impact on reading and numeracy education. The facts mentioned above motivate researchers to conduct investigations in that domain.

Targets of the Study

The targets of the study are as follows.

1. To analyse the perception of preparatory school teachers towards the foundational literacy and numeracy programme.
2. To compare the perception of Female and male preparatory school teachers towards the foundational literacy and numeracy programme.
3. To compare the perception of less and highly experienced preparatory school teachers towards the foundational literacy and numeracy programme.

Methods and Procedures

Design of the study: The main objective of the study is to examine the perception of elementary school teachers towards the foundational literacy and numeracy programme of Puri District. To achieve this objective, the investigator collected data from elementary school teachers towards the foundational literacy and numeracy programme through a perception scale. Based on the above fact, a survey design is applied to carry out the present study.

Population: In the present study, the population consists of all preparatory school teachers of the Puri District. However, due to practical constraints such as time and accessibility, the study focuses on the schools located in the Krushan Prasad Block of Puri District. These schools are selected based on the criterion that the authorities grant permission for data collection from teachers.

Sample: Keeping accessibility in mind, the investigator collected data from schools located in the investigator's hometown, Krushan Prasad Block, Puri District. For this, will use the convenience sampling technique was used by the investigator to select schools. The investigator selected the following 20 schools for data collection. As a result, all of the preparatory teachers at the selected school serve as the study's sample. In the selected schools, the total number of teachers is 88, out of which 45 are male teachers and 43 are female teachers. The school-wise detail of teachers is given in the following table.

Table 1: Details of Sample

Sl No	Name of School	Total Teacher	Male Teachers	Female Teachers
1	Manika Patana Daraghasahi P.P. S	02	02	-
2	Panda Pkhari PS	02	-	02
3	Kaji Bhoisahi PS	02	01	01
4	Peer Saheb UPS, Bhargabanpur	05	01	04
5	Sebakpur PPS	02	01	01
6	Sanapatana UPS, Sanapatana	05	04	01
7	Siaragola UPS	05	03	02
8	Jadupur Priject PS	03	03	-
9	Gopinathpur UG UPS	07	01	06
10	Gabakund PS	03	01	02
11	Kumarpur PS	03	02	01
12	Jantata UPS Pritipur	05	02	03
13	Mahensa UPS	05	03	02
14	Mirjapur PS	02	02	-
15	Matasyajib UPS Saapnad	05	03	02
16	Gorakhpur project, UPS	04	02	02
17	Harihar Nodal High school	21	09	12
18	Paikshai PS	02	02	-
19	Bhimeswar UG, UPS	04	02	02
20	Tua Podiha PS	02	02	-
Total		88	45	43

Research Tool: A self-made Perception Scale for Teachers was developed by the investigator to analyse the perception of preparatory teachers towards the foundational literacy and numeracy programme. The investigator developed a two-point scale (No & Yes) on the perception of school teachers toward foundational literacy and numeracy, which consists of 15 items. In the initial stage, this scale consists of 18 items. After finalising, it was sent to three experts in the field of education to establish the content validity of this tool. Furthermore, analysing the feedback given by experts, ten items were modified and three items were deleted. Therefore, the final tool consists of 15 items for data collection.

Procedure of Data Collection: The investigation collected data from the preparatory teachers of the Krushan Prasad Block, Puri District, after taking permission from the authority (BEO & DEO). At first, the investigator established rapport with teachers by interacting with them, and then the Perception Scale for Teachers was shared among them. The investigator gave brief information about the topic of research, and the instructions were given to teachers about the procedure to complete the scale. During the process of data collection, the teachers were requested to kindly fill in the primary information, i.e, Name of Teacher, Gender, Name of school, and experience in years. They were also told that they are required to put a tick mark on any of the options according to their thought and perceptions. After all these formalities, the investigator collected data from the teachers.

Analysis

Perception of preparatory school teachers towards the foundational literacy and numeracy (FLN) programme

Table 2: Perception of preparatory school teachers towards the foundational literacy and numeracy programme

Sr. No	Items	N	Yes	%	No	%
1	Foundational Literacy and Numeracy (FLN) programme enhances cognitive skill of students.	88	50	57	38	43
2	Foundational Literacy and Numeracy (FLN) programme is essential for global competency	88	60	68	28	32
3	Foundational Literacy and Numeracy (FLN) programme positively impact on students' prospects	88	63	72	25	28
4	I feel adequate support for implementing Foundational Literacy and Numeracy (FLN) programme	88	52	59	36	41
5	Foundational Literacy and Numeracy (FLN) programme contributes to students' cultural awareness.	88	71	81	17	19
6	Foundational Literacy and Numeracy (FLN) programme as valuable for students personal development	88	52	59	36	41
7	Foundational Literacy and Numeracy (FLN) programme improve communication skill of students	88	58	66	30	34
8	I feel confident to assess the Foundational Literacy and Numeracy (FLN) programme proficiency of students	88	80	91	8	9
9	Foundational Literacy and Numeracy (FLN) programme is beneficial for academic achievement of students in different subject	88	48	55	40	45
10	Foundational Literacy and Numeracy (FLN) programme foster sense of openness to the diversity among students	88	30	34	58	66
11	Foundational Literacy and Numeracy (FLN) programme foster positive attitudes towards language learning in general	88	54	61	34	39
12	I feel supported in addressing the diverse needs of Foundational Literacy and Numeracy (FLN) programme	88	56	64	32	36
13	Foundational Literacy and Numeracy (FLN) programme improves numerical ability of students.	88	40	45	48	55
14	Foundational Literacy and Numeracy (FLN) programme is good enhancing basic skills such as writing, reading and calculating etc.	88	58	66	30	34
15	Overall Foundational Literacy and Numeracy (FLN) programme is good initiatives	88	61	69	27	30

Table 2 presents the item-wise perception of preparatory school teachers towards the Foundational Literacy and Numeracy (FLN) programme. Quantitative data from 88 preparatory school teachers reveal a predominantly positive perception of the Foundational Literacy and Numeracy (FLN) programme. A substantial proportion of teachers (57%) agreed that the FLN programme enhances students' cognitive skills, indicating a majority view of its positive impact on cognitive development. Similarly, 66% of respondents highlighted its role in improving basic skills such as reading, writing, and calculating, while more than half of the respondents (66%) also reported that it helps in enhancing students' communication skills. Furthermore, 61% believed that the FLN programme fosters positive attitudes toward language learning in general, and a significant number of respondents (81%) agreed that it contributes to students' cultural awareness. Teachers also recognised the programme's broader educational relevance as a significant number of respondents (68%) considered the FLN programme essential for global competency, and a large proportion of teachers (72%) stated that it positively impacts students' future prospects. Regarding academic benefits, 55% of teachers felt that the programme is beneficial for students' achievement in different subjects, and 59% of teachers viewed the Foundational Literacy and Numeracy (FLN) programme as valuable for students' personal development. On the matter of implementation, 59% of teachers reported that they receive adequate support for the FLN programme, and additionally, 64% teachers felt supported in addressing the programme's diverse needs. Notably, most teachers (91%) expressed confidence in assessing students' proficiency in FLN, reflecting a strong belief in the programme's measurability.

However, certain areas drew mixed or less favourable responses. Only 45% of teachers agreed that the FLN programme improves students' numerical ability, with 55% disagreeing, suggesting a relatively weak perception in this domain. Likewise, just 34% teachers believed this program fosters openness to diversity among students, while 66% disagreed, indicating a need for improvement in this area. Additionally, 45% of respondents did not view the programme as beneficial for academic achievement, and 41% teachers did not see it as valuable for personal development. Despite these concerns, a clear majority of teachers (69%) viewed the FLN programme as a good initiative overall. Taken together, these findings suggest that preparatory school teachers generally regard the FLN programme as a valuable and impactful intervention in early education, with notable strengths in cognitive development, basic skill enhancement, and cultural awareness, though with room for improvement in numerical skills and fostering diversity.

The analysis of the above data revealed that the majority of preparatory teachers reported that the Foundational Literacy

and Numeracy (FLN) programme enhances the cognitive skills of students, essential for global competency, contributes to students' cultural awareness, and has a positive impact on students' prospects. Furthermore, the majority of teachers felt that there is adequate support for implementing the Foundational Literacy and Numeracy (FLN) programme. In this context, majority of teachers reported that Foundational Literacy and Numeracy (FLN) programme as valuable for students personal development, improve communication skill of students, beneficial for academic achievement of students in different subject, foster sense of openness to the diversity among students, positive attitudes towards language learning in general and improves basic skills such as numerical ability, writing, reading and calculating etc. in overall, majority of teachers reported that Foundational Literacy and Numeracy (FLN) programme is good initiatives.

Therefore, the preparatory teachers have a favourable perception towards the Foundational Literacy and Numeracy (FLN) programme.

Perception of Female and male preparatory school teachers towards the foundational literacy and numeracy programme

Table 3 Perception of Female and male preparatory school teachers towards the foundational literacy and numeracy programme

Sr. No	Items		N	Yes	%	No	%
1	Foundational Literacy and Numeracy (FLN) programme enhances cognitive skill of students.	M	45	22	49	23	51
		F	43	30	70	13	30
2	Foundational Literacy and Numeracy (FLN) programme is essential for global competency	M	45	32	71	13	29
		F	43	40	93	03	7
3	Foundational Literacy and Numeracy (FLN) programme positively impact on students' prospects	M	45	29	64	16	36
		F	43	30	70	13	30
4	I feel adequate support for implementing Foundational Literacy and Numeracy (FLN) programme	M	45	21	47	24	53
		F	43	40	93	03	7
5	Foundational Literacy and Numeracy (FLN) programme contributes to students' cultural awareness.	M	45	35	78	10	22
		F	43	40	93	03	7
6	Foundational Literacy and Numeracy (FLN) programme as valuable for students personal development	M	45	15	33	30	67
		F	43	40	93	03	7
7	Foundational Literacy and Numeracy (FLN) programme improve communication skill of students	M	45	30	67	15	33
		F	43	40	93	03	7
8	I feel confident to assess the Foundational Literacy and Numeracy (FLN) programme proficiency of students	M	45	25	56	20	44
		F	43	39	90	04	9
9	Foundational Literacy and Numeracy (FLN) programme is beneficial for academic achievement of students in different subject	M	45	26	58	19	42
		F	43	30	70	13	30
10	Foundational Literacy and Numeracy (FLN) programme is beneficial for academic achievement of students in different subject	M	45	18	40	27	60
		F	43	40	93	03	7
11	Foundational Literacy and Numeracy (FLN) programme foster positive attitudes towards language learning in general	M	45	05	11	40	89
		F	43	40	93	03	7
12	I feel supported in addressing the diverse needs of Foundational Literacy and Numeracy (FLN) programme	M	45	35	78	10	22
		F	43	40	93	03	7
13	Foundational Literacy and Numeracy (FLN) programme improves numerical ability of students.	M	45	32	71	13	29
		F	43	13	30	30	70
14	Foundational Literacy and Numeracy (FLN) programme is good enhancing basic skills such as writing, reading and calculating etc.	M	45	25	56	20	44
		F	43	40	93	03	7
15	Overall Foundational Literacy and Numeracy (FLN) programme is good initiatives	M	45	28	62	17	38
		F	43	33	77	10	23

Table 3 reveals the item-wise perception of male and female preparatory school teachers towards the foundational literacy and numeracy programme. Out of the total sample, 45 teachers were identified as male and 43 were identified as female teachers. The item-wise analysis reveals notable gender-based differences, with female teachers consistently demonstrating more favourable attitudes towards various components of the programme compared to their male counterparts. In terms of cognitive development, a significantly higher percentage of female teachers (70%) believe that the FLN programme enhances the cognitive skills of students, compared to male teachers (49%). Similarly, 93% of females agreed that the programme is essential for global competency, while only 71% of males shared this view. A comparable trend was observed regarding the belief that the programme positively impacts students' future prospects, with 70% of female teachers reporting that the Foundational Literacy and Numeracy (FLN) programme positively impacts students' prospects, while 64% male preparatory teachers agreed with this statement. On the item, I feel adequate support for implementing the Foundational Literacy and Numeracy (FLN) programme a large proportion of female teachers (93%) reported feeling adequate support for implementing the programme, whereas only 47% of males expressed the same, suggesting a possible difference in access to training or institutional resources. Female teachers also expressed stronger agreement (93%) that the FLN programme contributes to students' cultural awareness compared to males (78%). When considering personal development, whether the Foundational Literacy and Numeracy (FLN) programme is valuable for students' personal development, most of the female preparatory teachers 93% supported this idea, whereas only 33% male preparatory teachers were in favour of this. Similar disparities were seen in communication skill development, with the majority of female preparatory teachers (93%) agreeing that the programme improves students' communication abilities as

compared to male preparatory teachers (67%). On the item, I feel confident to assess the Foundational Literacy and Numeracy (FLN) programme proficiency of students; the majority of female preparatory teachers 90% reported that the Foundational Literacy and Numeracy (FLN) programme proficiency of students was higher than that of male preparatory teachers (56%). Regarding academic achievement across subjects, 93% of females believed the programme is beneficial for the academic achievement of students in different subjects, compared to just 58% of males. Female teachers were also far more likely to state that the programme fosters positive attitudes towards language learning in general. A majority of female preparatory teachers 93% reported that the Foundational Literacy and Numeracy (FLN) programme fosters positive attitudes towards language learning in general, as compared to male preparatory teachers (11%). Additionally, 93% of females reported that they feel supported in addressing the diverse needs of the Foundational Literacy and Numeracy (FLN) programme as compared to male preparatory teachers (78%). Interestingly, the one area where males reported more positive perceptions was numerical ability; the majority of male preparatory teachers (71%) reported that the Foundational Literacy and Numeracy (FLN) programme improves the numerical ability of students compared to female preparatory teachers (30%). For enhancement of basic skills (reading, writing, and calculating), the majority of female preparatory teachers, 93% reported that the Foundational Literacy and Numeracy (FLN) programme is good at enhancing basic skills such as writing, reading and calculating, etc**.,** as compared to male preparatory teachers (56%). Finally, when asked whether the FLN programme is a good initiative overall, the majority of female preparatory teachers 77% reported that the Foundational Literacy and Numeracy (FLN) programme is a good initiative, as compared to male preparatory teachers (62%).

The above analysis revealed that the majority of female preparatory teachers reported that the Foundational Literacy and Numeracy (FLN) programme enhances the cognitive skills of students, essential for global competency, contributes to students' cultural awareness, and has a positive impact on students' prospects as compared to male preparatory teachers. Furthermore, female preparatory teachers felt that there was adequate support for implementing the Foundational Literacy and Numeracy (FLN) programme as compared to male preparatory teachers. In this context, female preparatory teachers reported that Foundational Literacy and Numeracy (FLN) programme as valuable for students personal development, improve communication skill of students, beneficial for academic achievement of students in different subject, foster sense of openness to the diversity among students, positive attitudes towards language learning in general and improves basic skills such as numerical ability, writing, reading and calculating etc. as compared to male preparatory teachers.

Therefore, the perceptions of female preparatory teachers are more favourable than those of male preparatory teachers towards the Foundational Literacy and Numeracy (FLN) programme.

Perception of less and highly experienced preparatory school teachers towards the foundational literacy and numeracy programme

Table 4: Perception of less and highly experienced preparatory school teachers towards the foundational literacy and numeracy programme

Sr. No	Items		N	Yes	%	No	%
1	Foundational Literacy and Numeracy (FLN) programme enhances cognitive skill of students.	ME	40	20	50	20	50
		LE	48	24	50	24	50
2	Foundational Literacy and Numeracy (FLN) programme is essential for global competency	ME	40	30	75	10	25
		LE	48	35	72.92	13	27.08
3	Foundational Literacy and Numeracy (FLN) programme positively impact on students' prospects	ME	40	20	50	20	50
		LE	48	24	50	24	50
4	I feel adequate support for implementing Foundational Literacy and Numeracy (FLN) programme	ME	40	13	32.5	27	67.5
		LE	48	45	93.75	03	6.25
5	Foundational Literacy and Numeracy (FLN) programme contributes to students' cultural awareness.	ME	40	25	62.5	15	37.5
		LE	48	32	66.66	16	33.33
6	Foundational Literacy and Numeracy (FLN) programme as valuable for students personal development	ME	40	31	77.5	09	22.5
		LE	48	26	54.16	22	45.83
7	Foundational Literacy and Numeracy (FLN) programme improve communication skill of students	ME	40	23	57.5	17	42.5
		LE	48	20	41.66	28	58.33
8	I feel confident to assess the Foundational Literacy and Numeracy (FLN) programme proficiency of students	ME	40	30	75	10	25
		LE	48	22	45.83	26	54.16
9	Foundational Literacy and Numeracy (FLN) programme is beneficial for academic achievement of students in different subject	ME	40	32	80	08	20
		LE	48	40	83.33	08	16.88
10	Foundational Literacy and Numeracy (FLN) programme is beneficial for academic achievement of students in different subject	ME	40	18	45	22	55
		LE	48	30	62.5	18	37.5
11	Foundational Literacy and Numeracy (FLN) programme foster positive attitudes towards language learning in general	ME	40	23	57.5	17	42.5
		LE	48	25	52.08	23	47.91
12	I feel supported in addressing the diverse needs of Foundational Literacy and Numeracy (FLN) programme	ME	40	30	75	10	25
		LE	48	40	83	08	17
13	Foundational Literacy and Numeracy (FLN) programme improves numerical ability of students.	ME	40	20	50	20	50
		LE	48	24	50	24	50
14	Foundational Literacy and Numeracy (FLN) programme is good enhancing basic skills such as writing, reading and calculating etc.	ME	40	20	50	20	50
		LE	48	30	63	08	37
15	Overall Foundational Literacy and Numeracy (FLN) programme is good initiatives	ME	40	29	73	11	27
		LE	48	27	56	21	44

Note: ME-More experienced, LE- Less experienced

Table 4 presents the item-wise perception of less experienced and highly experienced preparatory school teachers towards the Foundational Literacy and Numeracy (FLN) programme. The sample consisted of 40 teachers with high teaching experience and 48 teachers with less teaching experience. Overall, the findings indicate mixed patterns, with certain areas showing close agreement between the two groups and others revealing substantial differences. On the enhancement of cognitive skills, both groups reported identical perceptions; 50% teachers with high experience and 50% of teachers with less experience agreed that the Foundational Literacy and Numeracy (FLN) programme enhances the cognitive skills of students. Regarding global competency, responses were closely aligned: 75% of highly experienced teachers and 73% of less experienced teachers agreed that the FLN programme is essential for global competency. A similar trend appeared for the belief that the programme positively impacts students' future prospects, where exactly 50% of teachers in each group (teachers with high experience and teachers with less experience) supported the idea that the Foundational Literacy and Numeracy (FLN) programme positively impacts students' prospects. Likewise, both groups (teachers with high experience and teachers with less experience) reported equal agreement (50%) on the programme's role in improving numerical ability. In both groups, 50% teachers with high experience and 50% teachers with less experience reported that the Foundational Literacy and Numeracy (FLN) programme improves the numerical ability of students. Regarding cultural awareness, the perception of both groups was also similar, with 62.5% of teachers with high experience and 67% of teachers with less experience reporting that the Foundational Literacy and Numeracy (FLN) programme contributes to students' cultural awareness. However, a striking difference was observed in perceptions of implementation support; only 32.5% of teachers with high experience felt they had adequate support for implementing the programme, compared to 94% of teachers with less experience. In terms of personal development, 77.5 % preparatory teachers who have high teaching experience reported that the Foundational Literacy and Numeracy (FLN) programme was valuable for students' personal development, while only 54% of less experienced teachers shared this view. In the case of communication skill development, 57.5 % preparatory teachers who have high teaching experience reported that the Foundational Literacy and Numeracy (FLN) programme improves the communication skills of students, compared to 42% among less experienced teachers. On the item, I feel confident in assessing the Foundational Literacy and Numeracy (FLN) programme proficiency of students, 75 % preparatory teachers who have high teaching experience, reported that they feel confident in assessing the Foundational Literacy and Numeracy (FLN) programme proficiency of students, compared to 46% preparatory teachers who have less teaching experience, supported this idea. For academic achievement in different subjects, there were similar responses from both groups: 80 % preparatory teachers who have high teaching experience, reported that the Foundational Literacy and Numeracy (FLN) programme is beneficial for the academic achievement of students in different subjects, whereas 83% of less experienced teachers agreed that the programme is beneficial in this regard. However, on another related item, only 45% of highly experienced and 62.5% of less experienced teachers supported that the Foundational Literacy and Numeracy (FLN) programme is beneficial for the academic achievement of students in different subjects. In fostering positive attitudes towards language learning, 57.5% of highly experienced teachers and 52% of less experienced teachers agreed that the Foundational Literacy and Numeracy (FLN) programme fosters positive attitudes towards language learning in general. On the item, I feel supported in addressing the diverse needs of the Foundational Literacy and Numeracy (FLN) programme 75% preparatory teachers who have high teaching experience and 83% preparatory teachers who have less teaching experience reported that they felt supported in addressing the diverse needs of the Foundational Literacy and Numeracy (FLN) programme. For basic skill enhancement (reading, writing, and calculating), 50% of highly experienced teachers agreed that the Foundational Literacy and Numeracy (FLN) programme is good at enhancing basic skills such as writing, reading and calculating, etc, compared to 63% of less experienced teachers. Finally, when considering the FLN programme as a good initiative overall, 73% of highly experienced teachers reported that the Foundational Literacy and Numeracy (FLN) programme is a good initiative, compared to 56% of less experienced teachers.

The above analysis revealed that the majority of preparatory teachers who have less teaching experience reported that the Foundational Literacy and Numeracy (FLN) programme enhances the cognitive skills of students, essential for global competency, contributes to students' cultural awareness, and has a positive impact on students' prospects as compared to preparatory teachers who have high teaching experience. Furthermore, preparatory teachers who have less teaching experience felt that there is adequate support for implementing the Foundational Literacy and Numeracy (FLN) programme as compared to preparatory teachers who have high teaching experience. In this context, preparatory teachers who have less teaching experience reported that Foundational Literacy and Numeracy (FLN) programme as valuable for students personal development, improve communication skill of students, beneficial for academic achievement of students in different subject, foster sense of openness to the diversity among students, positive attitudes towards language learning in general and improves basic skills such as numerical ability, writing, reading and calculating etc. as compared to preparatory teachers who have high teaching experience.

Therefore, the perceptions of preparatory teachers who have less teaching experience are more favourable than those of the preparatory teachers who have high teaching experience towards the Foundational Literacy and Numeracy (FLN) programme.

Findings and Discussion

The findings of the present study reveal that preparatory school teachers in Puri District generally hold favourable perceptions toward the Foundational Literacy and Numeracy (FLN) programme. A majority of respondents acknowledged the programme's contribution to enhancing cognitive skills, cultural awareness, communication abilities, and students' overall prospects. However, weaker perceptions were reported in the domains of numerical ability (45%) and openness to diversity (34%), suggesting

gaps in implementation and classroom practices. The analysis showed that female teachers consistently held more favourable perceptions of FLN compared to their male counterparts. For example, 93% of female teachers reported that FLN contributes to students' cultural awareness, compared to 78% of male teachers. Similarly, female teachers expressed greater confidence in assessing student proficiency and noted stronger benefits in communication skill development. The comparative analysis between less experienced and highly experienced teachers revealed slight variances. While both groups acknowledged FLN's importance for global competency and cognitive development, less experienced teachers reported greater institutional support (94%) compared to only 33% of highly experienced teachers. This may indicate that less experienced teachers are more exposed to recent FLN-related training under initiatives such as the NIPUN Bharat Mission (Ministry of Education, 2021). On the other hand, experienced teachers valued FLN more highly for personal development and communication skill enhancement.

Recommendations

1. **Enhance Teacher Training Programs:** Introduce regular professional development sessions focused on FLN, incorporating hands-on activities, peer learning, and mentorship programs.
2. **Develop Supportive School Environments:** Schools should establish cooperative forums where educators can exchange FLN-related issues and best practices, encouraging a culture of ongoing development.
3. **Incorporate FLN in Curriculum Planning:** Pre-service and in-service teacher education curriculum should incorporate FLN-focused modules to guarantee early and ongoing exposure to fundamental teaching techniques, according to educational planners.
4. **Conduct Further Research:** Extend the research to incorporate more extensive and varied samples from other geographical areas in order to confirm the results. Examine additional psychological elements (such as resilience and motivation) that can affect teachers' perceptions of FLN.
5. **Policy Advocacy:** Advocate for policies that provide schools with adequate resources (e.g., teaching aids, FLN-specific materials) to support teachers in delivering high-quality foundational education.

Limitations and Further Research

While the present research does an excellent job of collecting teachers' perceptions of the FLN program, there are a few limitations that need to be addressed. Firstly, the data collection tool was a self-made tool, which means it wasn't validated or standardised. Secondly, the study relied solely on percentage analysis to interpret the results, which limited the ability to provide a useful overview of teachers' responses. The future research can include the use of standardised tools and advanced statistical techniques, such as chi-square tests, t-tests, ANOVA, or regression analysis, to provide more comprehensive insights. Moreover, similar studies can be conducted on the other states of India, expanding the sample size and including teachers from diverse geographical and institutional backgrounds (from rural and urban areas and private schools) could enhance the representativeness of findings. In addition, adopting a mixed-methods approach that combines quantitative data with qualitative insights from interviews would yield a richer understanding of teachers' experiences and challenges in implementing the FLN programme. Future studies may also examine contextual factors such as teacher training, resource availability, and classroom environment to better explain the variations in perceptions and outcomes related to FLN.

Conclusion

The main objective of the study was to analyse the perception of preparatory school teachers towards the foundational literacy and numeracy programme and to compare the perception of teachers towards the foundational literacy and numeracy programme pertaining to their gender and teaching experience. The findings of this study affirm that the Foundational Literacy and Numeracy (FLN) programme is broadly well-received among preparatory school teachers in Puri District, with most perceiving it as an effective initiative for strengthening early learning outcomes. Female teachers and less experienced educators tended to view the programme more positively, indicating possible differences in professional exposure, training, or classroom dynamics that influence perception. While cognitive, cultural, and communicative benefits were strongly acknowledged, gaps remain in perceived support for improving numerical ability and promoting diversity. Addressing these areas through targeted professional development, improved teaching-learning materials, and policy-level support could further enhance the programme's impact. Ultimately, the study underscores the central role of teacher perception in the success of FLN initiatives and calls for sustained efforts to align policy objectives with classroom realities to ensure equitable and effective foundational learning for all children.

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