



Teacher Perspectives on Foundational Literacy and Numeracy Trainings: Insights from Telangana

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ABSTRACT

Goal of the Study: This study examines the perceptions of secondary school teachers in Mahabub Nagar, Telangana, regarding Foundational Literacy and Numeracy (FLN) training as part of the Tholimettu project. It examines the effectiveness of training and how gender impacts TLM preparation, curriculum integration, and instructional clarity. It aligns with the Expectancy-Value Theory, Constructivist Learning, Sociocultural Theory, and Andragogy (also known as Adult Learning Theory). Methodology: We administered a descriptive survey to 176 randomly selected teachers from Jadcherla and Midjil Mandals. To gather data, we sent a Google Form survey containing 15 Likert-scale questions over WhatsApp. The Mann-Whitney U test was used to analyse gender differences in responses. Findings: The results show no substantial gender gaps in textbook usage, multigrade instruction, instructional effectiveness, or clarity. Disparities in curriculum implementation and TLM preparation, however, surfaced. Although there were slight differences in the noted influence on teaching ability,



teachers' post-training confidence levels were identical. Conclusion: The research emphasizes the need for inclusive, planned FLN training. Strengthening feedback systems, incorporating technology, and aligning the curriculum can improve training effectiveness, enhance student learning outcomes, and promote long-term success in school.

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1. INTRODUCTION:

Proficiency in foundational abilities like reading and numeracy is crucial for academic achievement in the ever-changing sector of education (Chalmers & Gardiner, 2015). In today's dynamic school system, a solid foundation in reading and numeracy is essential. "Teachers significantly impact how well literacy and numeracy programs work (Katman & Tutkun, 2015). Educators' vital role is essential to ensuring the efficacy of these activities (Kaur, 2016). "To facilitate the seamless implementation of new curricula, educators require continuous engagement in professional development activities "(Shakoor & Farrukh, 2018). (Et al., 2017) (Zuilkowski et al., 2021) (Bulut, 2022) (Islamia et al., 2022).

On August 15, 2022, the Telangana state government launched the Tholimettu program to improve learning outcomes in government primary schools. A carefully organised six-day intensive training session, which included math, Telugu, English, and environmental science, was a component of the action plan, running from July 30, 2022, to August 6, 2022. The program involved aspects including curricular integration, effective utilisation of teaching-learning materials, and realistic implementation strategies, with an emphasis on holistic teacher development. The Tholimettu-2 training, held in July 2023, focused on fundamental reading and numeracy techniques, striking a balance between theory and real-world practice. To ensure that students' reading and math skills continued to develop, teachers received reinforcement of these strategies during a two-day follow-up session held during the same academic year. By providing teachers with the necessary tools to operate programs effectively and by enhancing the fundamental skills of primary school children, this project reflects the government's commitment to improving educational standards.



Theoretical Structure

Remarks on Aligning Theoretical Frameworks: Improving Knowledge via Educational Theories.

In this study, secondary school teachers in the Mahabub Nagar district participated in training programs designed to implement FLN. We investigate the impact of these programs. Important teaching concepts that shed light on the complex elements of teacher training and professional growth serve as the foundation for our study. (Davidoff et al., 2015)

1.1. Constructivist Learning Theory: This study examines how FLN training influences instructors' instructional methods and material development. We recognize that teachers play an active role in helping students generate new knowledge from their experiences by aligning with constructivist learning theory. Teachers receive training in FLN that helps them reflect on their teaching methods and develop richer learning opportunities for pupils. (V & A, 2016) (Harasim, 2018)

1.2. Sociocultural Theory: We use sociocultural theory to analyse gender-based disparities in teachers' opinions of FLN training programs. Highlighting the necessity of training programs that are inclusive and contextually appropriate. We gained complex insights into the socio-cultural environment of teacher professional development by examining the relationship between gender and views of FLN training. (Acuña et al., 1995)

1.3. Adult Learning Theory (Andragogy): This study, informed by the tenets of adult learning theory, examines how FLN training impacts instructors' self-efficacy and teaching abilities. We emphasise that FLN training programs vary because we recognise the importance of providing individuals with meaningful and self-directed learning experiences. Teachers who receive FLN training develop the skills to take control of their professional development, which enhances their practice in numerous ways. (Kapur, 2015)

1.4. Expectancy-Value Theory: The Expectancy-Value Theory clarifies the study's motivational patterns, emphasising how teachers' expectations of success and their perceived importance to training goals influence their involvement and views of FLN instruction. Gender disparities in TLM preparation and curriculum implementation highlight the various factors that motivate the program's effectiveness. Wigfield & Eccles (2000); and Boström & Palm, 2020



2. REVIEW OF LITERATURE:

Kaur's (2016) research found that primary school teachers in Tehsil Raikot, Punjab, generally had a positive attitude toward in-service training. Specifically, there were significant differences in the perspectives of male and female teachers on training. The attitudes of the upper elementary school teachers were more positive.

Root and Sanborn's (2017) literature analysis highlights the importance of in-service teacher training in promoting competency and upholding learning standards. They suggest using existing rules, ensuring instructors are involved in program creation, and coordinating teaching strategies with regional and national objectives.

Shakoor (2018) highlights important characteristics such as gender, job happiness, and teaching experience, noting that women tend to have more favourable opinions. The study examines the relationship between students' motivation and instructors' perceptions of the financial benefits.

Miller et al., in their book, investigated how improved teacher preparation enhances students' reading and numeracy skills.

Nisa Khan's (2017) study from Aligarh, based on a survey of 112 teachers, found that in-service training, particularly refresher courses, significantly improved the teaching standards of senior secondary school teachers. The study was based on interviews with 56 public school teachers in Erzurum.

Bulut's (2022) study of Turkish teachers' attitudes regarding in-service training identified dissatisfaction with the training's length and material. Teachers preferred in-person sessions and required training in special education, software and material preparation, and instructional methods.

3. RESEARCH GAP: "There is a large knowledge gap about primary school teachers' viewpoints and experiences in foundational literacy and numeracy (FLN) training programs." Most research on educators at this level has not detailed how primary school teachers approach and execute basic literacy and numeracy teaching. Closing this gap would improve our comprehension of the special difficulties and challenges that primary school teachers experience in FLN programs of training, leading to more effective instructional strategies at the primary education level



4. RESEARCH QUESTION: "How do secondary school teachers in Mahabub Nagar perceive the effectiveness of Foundational Literacy and Numeracy (FLN) training programs in enhancing their teaching practices and student learning outcomes? What factors influence these perceptions?"

5. OBJECTIVES:

1. This study investigates the effect of FLN training on teachers' views regarding textbook usage, multigrade teaching methods, and the clarity of learning objectives.
2. This study evaluates teachers' perceptions of TLM preparation and utilisation, instructional clarity, and effective teaching.
3. We aim to assess teachers' perspectives and opinions regarding the implementation of the FLN curriculum, the complexity of school meetings, alignment with the National Education Policy (NEP) 2020, and their awareness of learning outcomes.
4. We aim to collect feedback on FLN training, focusing on factors such as efficiency, creativity, instruction duration, and facility satisfaction.
5. Evaluate Teachers' Confidence and Impact: This involves attending to students' needs and challenges, and assessing how training materials enhance teaching capacity.

6. HYPOTHESES:

1. There are no substantial differences in the views of male and female teachers regarding the effectiveness of FLN training in terms of textbook utilisation, multigrade methods of instruction, and clarity of learning objectives.
2. After FLN training, there are no significant differences in how male and female teachers perceive instructional clarity, TLM preparation, utilisation, and effective teaching.
3. There are no significant differences between the views and perspectives of male and female teachers regarding the implementation of the FLN curriculum, school-complex meetings, NEP2020 alignment, and comprehension of learning outcome targets.



- 4. Regarding FLN training, particularly regarding effectiveness, creativity, duration of teaching, and satisfaction with training facilities, evaluations from male and female educators do not vary significantly.
- 5. There are no significant differences in the confidence levels and perceived impact of training materials on improving teaching ability or in how male and female teachers respond to their students' needs and challenges.

7. RESEARCH METHODOLOGY:

The study employed a descriptive survey to investigate how secondary school teachers in the Mahabub Nagar district's Jadcherla and Midjil mandals perceived literacy and numeracy training. We used simple random sampling to select the sample, which consisted of 176 instructors. We employed a 15-question Google Form survey with a self-prepared Likert-style scale for data collection. The survey was effectively distributed and collected by WhatsApp. The Mann-Whitney U test was used to analyse gender differences in responses. SPSS software was utilised for data analysis in this study.

8. ANALYSIS AND INTERPRETATION:

The table displays important data for comparing questionnaire variants 1 through 15, depending on gender. Mann-Whitney U and Wilcoxon W values indicate rank sums and significance. Z scores illustrate how real means differ from expectations. Asymptotic significance (2-tailed) measures the probability of random events and ranges from 0.040 to 0.650. The table provides important insights into gender differences, facilitating a deeper understanding of the results.

TABLE 1: MANN-WHITNEY U TEST

Test Statistics						
	v1	v2	v3	v4	v5	v6
Mann-	2974.000	3099.000	3018.500	3252.500	2859.000	3095.500



Whitney U						
Wilcoxon W	10114.000	10239.000	10158.500	10392.500	9999.000	10235.500
Z	-1.642	-1.088	-1.519	-.589	-2.054	-1.149
Asymp. Sig. (2-tailed)	.101	.277	.129	.556	.040	.250

Test Statistics						
	v7	v8	v9	v10	v11	v12
Mann-Whitney U	2924.500	3288.500	3024.000	3198.000	3216.000	3080.500
Wilcoxon W	10064.500	10428.500	10164.000	10338.000	10356.000	10220.500
Z	-1.775	-.454	-1.374	-.788	-.636	-1.104
Asymp. Sig. (2-tailed)	.076	.650	.169	.431	.525	.269



Test Statistics	v13	v14	v15
Mann-Whitney U	2936.000	2858.000	3258.500
Wilcoxon W	10076.000	9998.000	10398.500
Z	-1.640	-1.927	-.530
Asymp. Sig. (2-tailed)	.101	.054	.596

a. Grouping Variable: 2. GENDER

HYPOTHESES TESTING.

Hypothesis 1:

- Textbook Utilization (v1): $p = 0.101 (>0.05)$, which supports the null hypothesis.
- Multigrade Methods (v2): $p = 0.277 (>0.05)$; accept the null hypothesis.
- The null hypothesis is accepted.

Therefore, there is not enough evidence to prove the null hypothesis. The data indicate no significant differences between male and female teacher opinions about how successful FLN training is in these three areas.

Hypothesis 2:

- v4 (Instructional Clarity): Accept the null hypothesis; there is no significant gender difference, $p = 0.556 (>0.05)$.
- v5 (TLM Preparation): reject the null hypothesis, significant gender difference, $p = 0.040 (<0.05)$;



- The null hypothesis is accepted.

After FLN training, there are notable variations between male and female instructors' views of their TLM preparation (v5). Still, there are no significant variations in their opinions of instructional clarity (v. 4) or effective teaching (v. 6).

Hypothesis 3:

- v7 (FLN Curriculum): reject the null hypothesis, significant difference, $p = 0.076 (<0.05)$;
- In v8 (School-Complex Meetings), we accept the null hypothesis because there is no significant difference ($p = 0.650 > 0.05$);
- With a p-value of 0.169 (>0.05), v9 (NEP2020 Alignment) accepts the null hypothesis, indicating no significant change.

There were substantial variations in the teachers' attitudes toward the FLN curriculum (v7), although there were no significant differences in their thoughts concerning school-complex meetings (v8) or alignment with NEP2020 (v9).

Hypothesis 4:

- We accept the null hypothesis for v10 (FLN Training Effectiveness) at $p = 0.431 (>0.05)$, indicating no significant change.
- In v11 (Creativity during Training), we accept the null hypothesis with a p-value of 0.525 (>0.05), indicating no significant shift.
- With a p-value of 0.269 (>0.05), we accept the null hypothesis for v12 (Duration of Training), which shows no significant variance.

There were no discernible differences between male and female teachers in the assessments of FLN training efficacy (v10), creativity (v11), or training duration (v12).

Hypothesis 5:



- In v13 (Confidence in Training Materials), we accept the null hypothesis with a p-value of 0.101 (>0.05) and no observed variation. Impact on Teaching Skills,
- v14: $p = 0.054$ (<0.05), a marginally significant difference, indicating the need for further research.
- With a p-value of 0.596 (>0.05), v15 (Managing Students' Needs) accepts the null hypothesis, indicating no significant difference.

There were no notable modifications in confidence levels (v13) or how students' demands were addressed (v15). However, a significant difference was observed in how teaching abilities were perceived to be affected (v14), which may warrant further investigation.

9. THE STUDY'S FINDINGS:

We can summarise the findings as follows:

1. During the training, there were no apparent gender disparities in views on the use of textbooks, multigrade methods of instruction, or the clarity of learning outcomes.
2. We found significant gender differences in TLM preparation and curriculum implementation, indicating areas that require targeted efforts.
3. There were no apparent differences by gender in the views about instructional clarity and teaching effectiveness.
4. Teachers' views on NEP2020, school-complex meetings, and the Program Implementation (FLN program) were not significantly different.
5. Male and female teachers performed identical assessments of FLN training effectiveness, creativity, duration, and facility satisfaction.
6. The genders showed similar post-training confidence levels. However, there was a slight indication of a difference in the perceived impact on teaching skills, suggesting the need for further study.

10. CONCLUSION:

The research sheds significant light on how secondary school teachers in the Mahabub Nagar area feel about FLN (Foundational Literacy and Numeracy) training programs. These efforts demonstrate their effectiveness and importance, revealing disparities, particularly in TLM preparation



and the implementation of FLN curriculum. These results highlight the need for targeted strategies to address specific challenges faced by teachers and provide equitable access to high-quality professional development.

The study also emphasizes the importance of aligning FLN training with adult learning, constructivist learning, expectancy-value theory, and sociocultural theory. Firmly establishing professional development on these ideas can produce training programs that are more effective and contextually relevant. Enhanced FLN programs, incorporating suggestions such as feedback mechanisms, specific modules, technology integration, diverse teaching methods, and adherence to the curriculum, can lead to improved academic outcomes. Ultimately, the research highlights the importance of teachers preparing students to acquire fundamental mathematical and reading skills, thereby laying the groundwork for future academic success and lifelong learning.

11. SUGGESTIONS AND RECOMMENDATIONS:

Based on the study's findings, the following suggestions are proposed for enhancing professional development in the context of FLN: It is essential to create specific training modules tailored to the diverse needs of teachers, thereby improving professional development in FLN. We can achieve this by considering variables such as topic competence and experiences. Digital tools, such as distance learning and simulated classrooms, can broaden access and diversify learning opportunities. Strong feedback systems ensure constant improvement, keeping training current and valuable. In addition, focusing on the significance of FLN skills, providing teachers with a variety of instructional strategies to meet the diverse needs of their student body, and coordinating training with existing policies and curriculum standards will all work together to improve teaching quality and student outcomes in FLN education.

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**13. REFERENCES:**

- Acuña, M. H., Ogilvie, K. W., Baker, D. N., Curtis, S. A., Fairfield, D. H., & Mish, W. H. (1995). The Global Geospace Science Program and its investigations. In *Space Science Reviews* (Vol. 71, Issues 1–4). <https://doi.org/10.1007/BF00751323>
- Boström, E., & Palm, T. (2020). Expectancy-value theory as an explanatory theory for the effect of professional development programmes in formative assessment on teacher practice. *Teacher Development*, 24(4), 539–558. <https://doi.org/10.1080/13664530.2020.1782975>
- Davidoff, F., Dixon-Woods, M., Leviton, L., & Michie, S. (2015). Demystifying theory and its use in improvement. *BMJ Quality and Safety*, 24(3), 228–238. <https://doi.org/10.1136/bmjqs-2014-003627>
- Harasim, L. (2018). Constructivist Learning Theory. *Learning Theory and Online Technologies*, October, 61–79. <https://doi.org/10.4324/9781315716831-5>
- Kapur, S. (2015). Andragogy: The Adult Learning Theory. *Indian Journal of Adult Education*, 76, 50–60.
- V, D., & A, Y. (2016). Constructivism: A Paradigm for Teaching and Learning. *Arts and Social Sciences Journal*, 7(4), 66–70. <https://doi.org/10.4172/2151-6200.1000200>
- Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, 25(1), 68–81. <https://doi.org/10.1006/ceps.1999.1015>
- Archana Dwivedi. (2021). *LEARNING OUTCOMES AND EDUCATIONAL REFORMS- PEDAGOGY, ASSESSMENT, AND QUALITY ASSURANCE THROUGH NEW* Dr Archana Dwivedi. 11(1), 83–86. <https://doi.org/10.46360/globus.edu.220211016>
- Bulut, A. (2022). Perceptions of Teachers Towards In-Service Training Activities. *International Journal on Social and Education Sciences*, 4(2), 275–289. <https://doi.org/10.46328/ijonses.387>
- Chalmers, D., & Gardiner, D. (2015). An evaluation framework for identifying the effectiveness and impact of academic teacher development programs. *Studies in Educational Evaluation*, 46, 81–91. <https://doi.org/10.1016/J.STUEDUC.2015.02.002>



Douglas N. Harris, Tim R. Sass, 2011, Teacher training, teacher quality and student achievement, *Journal of Public Economics*,

Volume 95, Issues 7–8, 2011, Pages 798–812, ISSN 0047-2727,

<https://doi.org/10.1016/j.jpubeco.2010.11.009>.

Et al., R. ul A. (2017). In-Service Teachers' Training Program: A step towards quality Education. *NICE Research Journal, June*, 78–95. <https://doi.org/10.51239/nrjss.v0i0.55>

Islamia, J. M., Islamia, J. M., & Delhi, N. (2022). *Changing wave of Early Childhood Care and Education in India: NEP 2020 policy perspective*. 18-25.

Ka Ersobsee. (n.d.).

Katman, A. K., & Tutkun, Ö. F. (2015). Teachers' Views Related to the Effectiveness of In-service Training Programs in Primary Schools. *Procedia - Social and Behavioural Sciences*, 174, 1878–1885. <https://doi.org/10.1016/j.sbspro.2015.01.851>

Kaur, S. (2016). *E- ISSN – 2395-1885 ISSN -2395-1877 International Journal of Multidisciplinary Research Review, Vol . 1, Issue – 3, March -2016. Research Paper E- ISSN – 2395-1885 ISSN - 2395-1877 International Journal of Multidisciplinary Research Review, Vol . 1 , . 1, 72–75.*

Khan, Z., Zebun, N. |, & Khan, N. (2011). Attitude of Teachers Towards In-Service Training for the Improvement in Quality of Teaching at School Level View project. *International Journal of Arts and Science, USA*, 4(11), 275–280. <https://www.researchgate.net/publication/319543723>

Kumar Rajput, A. (n.d.). Foundational Literacy and Numeracy. *Fln Report*.

Liu, F., Huang, X., & Baz, A. B. Policy Pathways for Improving Foundational Literacy and Numeracy in Uttar Pradesh, India. Retrieved From <
<https://d.docs.live.net/7eaefa4f88c46ad5/Documents/RESEARCH%20ARTICL@24.docx>

Meenakshi Sundaram, K. (2020). A Study on National Education Policy 2020 Concerning Career Opportunities. *Shanlax International Journal of Economics*, 9(1), 63–67. <https://doi.org/10.34293/economics.v9i1.3497>



Popova, A., Evans, D. K., Breeding, M. E., & Arancibia, V. (2022). Teacher Professional Development around the World: The Gap between Evidence and Practice. *The World Bank Research Observer*, 37(1), 107–136. <https://doi.org/10.1093/wbro/lkab006>

RESEARCH METHODOLOGY Unit 6. (n.d.) @IGNOU MA. (EDN)

Shakoor, U., & Farrukh, D. I. A. (2018). A Comparative Study of the Attitude of the Male and Female Elementary School Teachers towards Teaching Profession. *Journal of Education and Educational Development*, 5(2), 227. <https://doi.org/10.22555/joed.v5i2.2233>

Sims, S., Fletcher-Wood, H., O'Mara-Eves, A., Cottingham, S., Stansfield, C., Van Herwegen, J., & Anders, J. (2021). What Are the Characteristics of Effective Teacher Professional Development? A Systematic Review and Meta-Analysis. *Education Endowment Foundation*.

Zuilkowski, S. S., Sowa, P., Ralaingita, W., & Piper, B. (2021). *Literature review on pre-service teacher education for primary-grade literacy and numeracy teacher education in LMICs. Figure 1*, 1–19. <https://scienceofteaching.s3.eu-west-3.amazonaws.com/index.html#/lessons/rk7M-5zbsp9TZJF9SOdjDXDZakGTCvY>

APPENDIX

TEACHERS VIEW ON FLN TRAINING: QUESTIONNAIRE

- 1."I realized in the Tholimettu teacher training program that using textbooks in teaching might lead to faster achievement of learning outcomes."
- 2 "Foundational literacy and numeracy training thoroughly discussed what strategies should be used while conducting multigrade teaching."
- 3." After participating in the FLN training session, I thoroughly understood the learning goals associated with particular classes and subjects."
4. TLM preparation and use were clearly explained during FLN training."
- 5."It was well explained during FLN training how a teacher should go to the student level and teach them."



6. "The session offered instructions on how to properly educate kids about using worksheets."
7. "During my FLN training, I clearly understood how to implement the FLN curriculum in the classroom effectively."
8. "In my opinion, school complex meetings are a good forum for discussing the efficient application of FLN ideas gained during the training."
9. "I believe that the Tholimettu FLN training program is in line with NEP2020 aims."
10. "I realize that by 2026-27, our objective is to achieve FLN learning outcomes for all grade 3 students."
11. "I feel it would be better if this FLN training was conducted more efficiently and innovatively."
12. "I believe the government made the correct decision in offering three days of fundamental reading and numeracy teacher training."
13. "I am very satisfied with the training centre's facilities."
14. "I believe that by taking this FLN training, I will be more successful in addressing my pupils' requirements and difficulties."
15. "Training materials provided during the program helped enhance my teaching skills."