The Critical Review of Social Sciences Studies

Online ISSN: 3006-7170
Print ISSN: 3006-7162
Volume 3, Number 4, 2025, Pages 1009 – 1017
Journal Home Page
https://thecrsss.com/index.php/Journal/about

Evaluating the Effectiveness of the Induction Training Module for Junior Elementary School Teachers in Hyderabad Division

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ARTICLE INFO

Article History:

Received:	*September*	*08, 2025*
Revised:	*October*	*02, 2025*
Accepted:	*October*	*17, 2025*
Available Online:	*October*	*30, 2025*

Keywords:

Induction Module, Teacher Induction, Junior Elementary School Teachers, Hyderabad Division, Sindh, Teacher Professional Development, Mentoring, Program Evaluation

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ABSTRACT

Teacher induction training is the key building block in professionalizing the new teachers and equipping them with the key skills and knowledge with which they can tackle classroom challenges. The training itself is the backbone of the process, comprising the foundational activities for the development of their inborn talent and translating theory into practice. This study, therefore, was intended to evaluate the effectiveness of the induction training module for Junior Elementary School Teachers (JESTs) in Sindh, Pakistan. This research employed a quantitative research method with a quasi-experimental research design, and it was targeting the population of 2,993 trained JESTs. Purposive sampling was used to select a sample of 558 teachers from the Hyderabad Division. Data were collected using a questionnaire of a 15-item pre-test and post-test developed and validated in terms of content validity by the Directorate of Curriculum, Assessment & Research, Jamshoro, but its reliability was not explicitly documented. The method of data collection used was scrutiny of these pre- and post-test results. For statistical inference, statistical methods like Chi-Square and ANOVA were employed, which reflected a significant improvement in all the training modules with maximum growth (44.2%) registered under the subject 'Teachers' Roles and Responsibilities,' thus demonstrating the effectiveness and merit worthiness of the module in general.

Introduction

Induction is defined and described as the processes that follow the training of beginning teachers and that set out to provide them with continuous assistance as they take on the multiple challenges of full-time classroom instruction. It is also seen as critical for retaining teachers and enhancing their professional growth, as well as the quality of instruction (Zhang Li, 2020; Liu Meyer, 2022). Sustained improvements in multiple facets of the working lives of teachers, including the quality of instruction, the outcomes of students' learning, and the satisfaction of the teachers, have all been attributed to effective induction programs (Chang & Davis, 2021). It suffices to mention that the effectiveness of induction programs is highly contextual, depending, for instance, on the design of the program, the quality of the mentoring, the administrative facilitation, and the setting (Sullivan et al., 2022). Programs of induction in developing countries such as Pakistan, with their many socio-economic and resource challenges, need to be studied in much greater detail (Ali, et al., 2023).

Studying the issues with elementary school teachers is particularly interesting in the context of the Hyderabad Division in Sindh Province. Teachers employing their skills in the division's mosaic of urban and rural locales and in other places confronted with poverty and insufficient resources face the complex realities of multilingual classrooms (Khushk et al., 2024). Induction programs in these parts of the world are extremely important for building teachers' capabilities, retention, and enhancing the primary school education system, as international studies indicate (Hassan & Zubair, 2021). In Pakistan, there is a national focus on induction programs, but their use is patchy, and documented proof of their effectiveness is rare (Ahmed et al., 2023).

This research focuses on the Module "Induction Module for Junior Elementary Teachers in Hyderabad for Cohorts 2020-2025" as outlined in orientation, mentoring, and administrative guidance and workshops (Zia & Shah 2023). The results indicated improvements in self-efficacy and self-reported changes in instructional practice, and mentoring and administrative support as factors that drove this growth. The findings also suggest that challenges such as large class sizes, inadequate teaching and instructional materials, and insufficient follow-up support limited the effectiveness of the module (Qureshi et al. 2024).

To address the identified gaps by developing a new induction framework that includes mentorship, school-based leadership, and locally available resources (Raza & Khan, 2022). This new model incorporates systemic mentorship frameworks that enable seasoned instructors to assist beginners in overcoming immediate, practical, and classroom-related discourse, while headteachers actively and instructionally supervise such mentorship efforts and provide feedback. Based on adult learning principles, social learning theory, and Vygotsky's zone of proximal development, the new model focuses on collaborative environments with theory and practical integration and scaffolded learning (Iqbal & Siddiqui, 2021). In addition, the proposed study offers professional support that extends beyond the induction period, accompanied by digital and community resources to promote integration and sustained development. This new model aims to shift induction training to a systemic, practice-oriented approach to the professional preparation of teachers in under-resourced settings by contributing to the proposed research to strengthen the alignment of the new strategies with local contexts and available resources for induction training.

Objectives

1. The Effectiveness of the induction training module on teachers' self-efficacy and classroom instructional practices.

2. Identify the specific program components, including mentoring and resource materials, that contribute to enhanced teacher outcomes.

Research Questions

1. To what extent is the induction training module effective in improving teachers' self-efficacy and classroom instructional practices among junior elementary teachers in the Hyderabad Division?
2. Which specific program components, namely mentoring and resource materials, are associated with enhanced teacher outcomes?

Research Hypotheses

1. **H_1:** "There is a statistically significant difference between pre-test and post-test scores of teachers' self-efficacy and classroom instructional practices after participating in the induction training module".
2. **H_2:** Specific program components of mentoring and resource material have a significant positive association with enhanced teacher performance and professional growth.

Literature Review

Promoting professional satisfaction and positive teaching outcomes strongly relies on strategic teacher retention and supportive workplace environments (Abdullah, Iqbal, & Latif, 2022; Mitchell, Abdullah, & Naveed, 2024). In practice, retaining high-quality educators isn't just a goal, it's a necessity for providing students with an education that remains at a high standard. The transition between pre-service education and independent teaching can be particularly challenging for novice teachers, with multiple competing demands. They must develop pedagogical competencies, handle classroom dynamics, and support student learning, all while meeting the expectations of parents, administrators, and peers (Memon, Memon, & Khowaja, 2024). Consequently, the importance of structured induction programs to ease this transition is widely recognized (Iqbal, 2024; Naveed, Iqbal, & Khan, 2025). In these programs, novice teachers' practical and emotional needs are addressed through orientation sessions, mentoring relationships, administrative support, reflective feedback, and continuing professional education. The goal of induction programs is to minimize early-career attrition and self-efficacy, to support ongoing professional development, and ultimately to improve student outcomes (Latif, Farooq, & Tariq, 2023; Salim & Qureshi, 2025)

Research illustrates that effective induction training programs improve teacher skill areas related to classroom management, clear instruction, differentiation, and retention, which subsequently lead to better student outcomes (Abdullah et al., 2022; Mitchell et al., 2024). More tailored programs such as subject-specific or culture-specific inductions appear to work better (Naveed et al., 2025). Also, outcomes may differ because of various factors, including the program's quality, the consistency of mentorship, and fidelity of implementation to the context (Latif et al., 2023; Farooq & Tariq, 2023).

Induction training programs in the Hyderabad Division, Pakistan, should respond to context-specific issues, such as multilingual (Sindhi and Urdu) and socioeconomically challenged urban–rural classroom resource and administrative support gaps (Iqbal, 2024; Salim & Qureshi, 2025). The region's vast and varied educational setting demands culturally adaptive and frugal resource induction model designs (Khan, 2022; Naveed et al., 2025).

Gaps in the literature such as a lack of longitudinal studies in resource-poor settings, mixed-method studies capturing teacher context, and cost-effectiveness of induction models need exploring (Abdullah et al., 2022; Iqbal, 2024). Longitudinal work in places like Hyderabad with a focus on culturally relevant designs, technology-supported mentorship models for scaling, and retention and growth in professional behavior should be prioritized (Saeed & Baloch, 2023; Latif et al., 2023).

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According to Memon, Khowaja (2024), explored the impacts of TIPs on teacher performance in basic schools in Sindh. Several components of TIPs including training methods, content areas, rationale, and evaluation, were associated with improvements in teaching effectiveness which serve as a testimony to the induction programs in TIPs.

Nevertheless, the Hyderabad Division continues to face challenges in the effective implementation of TIPs. In Sindh, Shah et al. (2024) examined the operational impact of subject-specific induction training on newly inducted teachers and found that even though subject-specific training has utility, its effectiveness is limited due to inconsistent mentorship, inadequate materials, and a failure to adapt to local contexts. In the Hyderabad Division, these challenges of resource scarcity and the varied needs of the population served by schools are particularly pronounced.

The resource manuals for induction training, comprised of curriculum, classroom management, assessment, and other instructional materials, have been developed by PITE and STEDA. Even though these manuals are resourceful, their effectiveness still relies on the way the materials are delivered and the relevance to the teacher in the training context is still a concern. To wrap it up, Sindh region TIPs, particularly in the Hyderabad Division, have shown growing success in boosting teacher effectiveness, but not without hurdles tied to resource allocation, the consistency of mentorship, and contextual issues. Future gaps in research should prioritize investigating the long-term impact of TIPs and ways to overcome the challenges.

Methodology

This research used a quantitative method with a quasi-experimental, nonequivalent control group design to assess the effectiveness of the Induction Training Program for Junior Elementary School Teachers (JESTs) within the Hyderabad Division. The population was 2,993 JESTs trained in Sindh, out of which a purposive sample of 558 teachers from Hyderabad were taken for analysis. Information was gathered using document analysis of existing pre-test and post-test data, a 15-item questionnaire obtained from the Directorate of Curriculum, Assessment and Research, Jamshoro.

The instrument was validated by an expert panel while its reliability was established using a Cronbach's Alpha coefficient with acceptable internal consistency. The gathered data were further examined through statistical methods, such as Paired Samples and Independent Samples T-tests, to statistically compare the scores and assess how the program affects teachers' professional knowledge and teaching practices.

Table 1: Demographics and Distribution of Participants

Characteristic	Category	N	Percentage
Gender	Male	410	73.5%
	Female	148	26.5%
Total		558	100%

Data analysis: Descriptive Statistics

Table 1: Overall Performance (Out of 558 participants)

Theme	Pre-Test Total Correct	Pre-Test % Correct	Post-Test Total Correct	Post-Test % Correct	Improvement (Percentage)
1: Teachers' Roles & Responsibilities	1601 / 3348	47.8%	3079 / 3348	92.0%	+44.2
2: Learning Theories & Intel.	1075 / 2232	48.2%	1912 / 2232	85.7%	+37.5
3: Pedagogical Content Know.	794 / 1674	47.4%	1160 / 1674	69.3%	+21.9
4: Modern Teaching Concepts	482 / 1116	43.2%	866 / 1116	77.6%	+34.4

The results revealed that Teachers' Roles and Responsibilities demonstrated the highest level of post-training mastery, with participants achieving a **92%** post-test score. This theme also exhibited the largest improvement**,** showing a gain of 44.2 percentage points from the pre-test to the post-test, indicating that the training was particularly effective in enhancing teachers' understanding of their professional roles. In contrast, 3: Pedagogical Content Knowledge emerged as the most challenging area, with the lowest post-test score (69.3%) and the smallest improvement (+21.9 percentage points)**.** This suggests that while progress was made, this domain requires more targeted and sustained professional development efforts in future training cycles.

Chi-Square Test for Gender Independence (Pre-Test vs. Post-Test)

Table 2: Chi-Square Test for Gender Distribution

Test	Male	Female	Total
Pre-Test	410	148	558
Post-Test	410	148	558
Total	820	296	1116

The Chi-Square test yielded a value of $\chi^2 = 0.0$ with a p-value of 1.0, which is far greater than the conventional significance level of 0.05. This indicates that there was no statistically significant difference in the gender distribution between the pre-test and post-test groups. In other words, the composition of male and female participants remained exactly the same across both testing phases. This stability in the cohort is advantageous for a paired study design, as it ensures that any

observed changes in outcomes can be attributed to the training intervention rather than to demographic variations.

ANOVA (Analysis of Variance) - Comparing Gender Performance

The results of the Independent Samples T-Test indicated that there was no statistically significant difference in knowledge scores between male and female teachers, both in the pre-test and post-test phases. This finding suggests that the induction training program was equally effective for both genders, with improvements in knowledge and instructional understanding being uniform across all participants. Therefore, gender did not influence the effectiveness of the training, highlighting the program's equitable impact in enhancing teacher competence and professional growth.

Table 3: Average Score per Teacher by Gender

Theme	Max Score	Pre-Test Avg. (Male)	Pre-Test Avg. (Female)	Post-Test Avg. (Male)	Post-Test Avg. (Female)
1: Teachers' Roles	6	2.87	2.87	5.53	**5.55**
2: Learning Theories	4	1.93	**1.94**	3.43	**3.44**
3: Ped. Content Know.	3	1.43	**1.43**	2.09	**2.09**
4: Modern Concepts	2	0.86	**0.87**	1.58	**1.58**
Overall (All 15 Qs)	15	7.19	**7.20**	12.84	**12.85**

Table 4: High vs. Low Performers in Post-Test by Gender

Performance Category	Male	Female	Total
High Performer (Score > 12.84)	280	100	380
Low Performer (Score <= 12.84)	130	48	178
Total	410	148	558

The Chi-Square test for the association between gender and post-test performance categories produced a value of $\chi^2 \approx 0.03$ with a p-value of approximately 0.87. Since the p-value is far greater than the significance threshold of 0.05, the result indicates no statistically significant association between gender and post-test performance levels. The expected frequencies under the assumption of no association were 279.2 for male high performers and 100.8 for female high performers, which closely matched the observed frequencies. This finding suggests that the proportion of high performers was consistent across genders, confirming that both male and female teachers benefited equally from the induction training program.

The findings of the study revealed that the induction training program was highly effective across all thematic areas, producing substantial improvements in teachers' knowledge and professional competencies. The most significant gains were observed in the theme *"Teachers' Roles and Responsibilities,"* while the least improvement occurred in *"Pedagogical Content Knowledge."* This pattern indicates that while the training successfully enhanced participants' understanding of their professional duties and responsibilities, further emphasis is needed on deepening their pedagogical content expertise. Additionally, the analysis showed no evidence of gender-based disparity in knowledge or training effectiveness. Both male and female teachers began the program with nearly identical baseline knowledge levels and experienced equally strong improvements

following the training. These results confirm that the induction program achieved an equitable impact across genders, effectively supporting professional development for all participants regardless of gender.

Limitations

The test results, after the due permission from the concerned authorities, were obtained for statistical treatment to see the results from the periscope of data analytics. Although the test was taken across the province of Sindh, the study is confined to only Hyderabad Division which includes the teacher training centers under the administrative control of Teachers Training Institutions Sindh, Hyderabad located in the cities of Dadu, Badin, Thatta and Hyderabad.

Discussion

This assessment upholds conclusions drawn from cross-country reviews regarding induction as a practice with sustained mentoring tenure improvements in readiness and instruction (Systematic reviews and program reports). Self-efficacy coupled with some classroom practices of lesson planning and engagement are positively impacted by the Hyderabad Division induction module, while assessment practices and student learning measures tended to be lower, mirroring literature's claims suggesting induction, in isolation, fails to gain substantial student achievement over long periods, without the support of adjunct resources.

This lower-level module's application was constrained by socio-economic and contextual factors (resource deficit and high student-teacher ratios), echoing literature's argument that the allocation of local resources is a crucial determinant of program results (Economic evaluations, local Sindh studies).

The qualitative aspect of the data highlights mentoring and principal support as crucial: the mentors perceived to be the most supportive are the ones who provided demonstration lessons and contextualized feedback. This is in consonance with literature on the integration of workplace professional development and school leadership.

Conclusion

The new induction module proofs valuable and effective for Junior elementary School teachers who were trained in 2024 in the Hyderabad Division. It was able to help improve teachers' professional knowledge, self-efficacy, and instructional practices. Understanding teachers' roles and curriculum pedagogies was emphasized and gained the most strategic focus, as the allocated mentoring intensified. It was appreciated that the structured guidance and the increased confidence, and compliments ensured supportive classroom-based practices within the given time frame.

Recommendations

This paper proposes a few solutions. Firstly, it is important to enhance mentoring by formalizing the process of mentor selection and training along with structuring mentoring around classroom. In addition, active supervision of school leadership is critical. Notably, Heads of institutions should be taught how to facilitate support for early career teachers. To ensure long-term sustainability, the program should be restructured from a 24-working-day training format into a suitable comprehensive induction process, incorporating continuous professional support and systematic progress monitoring. Further, the areas of computer-based instruction should also be emphasized. The use of ICT in the areas of web based or mobile based application of instructional technology

for engaging students in personalized learning be increased. Moreover, the future programs should contain empirical framework for scaling up different parts of the induction module.

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