



Assessing the Effectiveness of Teacher and Educational Staff Training Programs on Student Competency Development

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DOI: <https://doi.org/10.61987/jemr.v5i4.2378>

ABSTRACT

Keywords:

Teacher Training;
Professional
Development; Student
Competencies

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This study aimed to evaluate the effectiveness of training programs for teachers and educational staff in enhancing students' competencies. A qualitative research approach was employed, with data collected through observations, interviews, and document analysis. The study involved educational personnel and school administrators who participated in professional development activities. The findings indicate that continuous training programs contribute positively to improving instructional quality through the adoption of innovative teaching strategies, digital technologies, and artificial intelligence (AI)-based learning applications. Enhanced teacher competencies were found to have a direct impact on students' learning experiences and competency development. However, the effectiveness of the programs remains constrained by limited technological infrastructure, restricted access to online training opportunities, and insufficient financial support. Participants also highlighted the importance of face-to-face training formats in fostering deeper interaction, engagement, and understanding. The study implies that sustainable professional development initiatives require adequate institutional support, improved technological facilities, and well-structured training programs to maximize their long-term impact on educational quality and student competency enhancement.

Article History:

Received: March 2026; Revised: April 2026; Accepted: May 2026

Please cite this article in APA style as:

Susanti, T., Arobi, M. R., Rahmadani, A., Pratama, I., Arif, Y. M. (2026). Assessing the Effectiveness of Teacher and Educational Staff Training Programs on Student Competency Development. *Journal of Educational Management Research*, 5(4), 3630-3642.

INTRODUCTION

Education has become a fundamental instrument for developing human resources capable of adapting to increasingly complex societal transformations (Ulum et al., 2025; Pareza et al., 2025). In the contemporary era, globalization and digitalization have reshaped social, economic, and educational systems, requiring individuals to possess not only basic literacy skills but also advanced competencies such as critical thinking, creativity, collaboration, communication,

and technological literacy (Nashrullah et al., 2025). These competencies are widely recognized as essential for success in the twenty-first century and for sustaining national competitiveness in the global economy (Ridwan & Maryati, 2024). Consequently, educational institutions are expected to continuously improve learning quality and ensure that graduates are prepared to respond effectively to rapid technological and social changes. Evidence from various educational reforms demonstrates that countries investing in educational quality enhancement achieve stronger economic resilience and human capital development (Supardi et al., 2025). Therefore, strengthening educational quality is not merely an institutional obligation but a strategic societal necessity to ensure sustainable development and future prosperity (Afifa et al., 2020; Lestari & Kurnia, 2023).

Despite the growing emphasis on educational quality, many educational institutions continue to face significant challenges in preparing learners for contemporary demands. One of the most critical issues is the uneven quality of human resources responsible for delivering educational services, particularly teachers and educational staff. Educational transformation requires professionals who are capable of adapting to curriculum reforms, technological advancements, and innovative pedagogical approaches. However, many institutions still struggle with limited professional development opportunities, insufficient technological support, and inadequate organizational capacity to facilitate continuous learning among educators (Marjuni, 2022). These challenges directly affect the quality of instructional delivery and educational services provided to students. Furthermore, disparities in professional competence often contribute to inconsistent learning outcomes and hinder students' ability to develop higher-order thinking skills and other essential competencies. Consequently, addressing the professional development needs of teachers and educational staff has become an urgent priority for educational stakeholders seeking to improve educational quality and student achievement in an increasingly competitive global environment (Sugiyarto et al., 2025).

The challenges associated with educational quality are increasingly evident in daily educational practices. The integration of digital technology, artificial intelligence, and innovative learning approaches has significantly altered instructional processes and administrative responsibilities within educational institutions. Teachers are expected to design learner-centered instruction supported by digital tools, while educational staff are required to manage increasingly complex administrative systems efficiently (Sulani et al., 2022). Nevertheless, many institutions continue to experience difficulties in implementing these changes effectively due to inadequate technological infrastructure, limited access to training opportunities, and financial constraints.

These conditions often reduce the effectiveness of educational services and limit the capacity of educators to support students' academic development. In addition, the rapid pace of technological change frequently outpaces the professional competencies possessed by educational personnel, creating a mismatch between institutional expectations and actual performance. Such phenomena indicate the importance of strengthening professional development initiatives to ensure educational institutions remain responsive to contemporary educational demands.

Previous studies have consistently highlighted the importance of professional development programs in enhancing the competencies of teachers and educational staff. Research has shown that systematic training initiatives contribute positively to pedagogical competence, instructional innovation, technological literacy, and organizational performance (Fadhila & Mahfudah, 2025). Training programs enable educators to adapt to curriculum changes, integrate digital technologies into teaching practices, and improve classroom management strategies (Milki et al., 2026). Moreover, evidence suggests that improved educator competence is associated with better learning experiences and increased student engagement (Mardiana & Anwar, 2025). Studies have also emphasized the role of educational staff in supporting institutional effectiveness through efficient administrative services and resource management (Sulani et al., 2022). These findings collectively indicate that professional development represents a critical mechanism for strengthening educational quality. However, most studies primarily focus on improvements in educator competence without comprehensively examining how such improvements influence student competencies as the ultimate outcome of educational processes (Mardiana & Anwar, 2025).

Although previous research has provided valuable insights into teacher professional development, several important limitations remain. First, many studies evaluate training effectiveness solely from the perspective of participant satisfaction or competency improvement among educators, while relatively few investigate its implications for students' cognitive, affective, and psychomotor development (Rusilowati & Wahyudi, 2020). Second, existing studies often focus exclusively on teachers and overlook the contribution of educational staff, despite their important role in supporting educational quality and institutional performance (Sulani et al., 2022). Third, the emergence of digital technologies and artificial intelligence has introduced new professional demands that have not been adequately explored in previous investigations (Nashrullah et al., 2025). As a result, there remains limited empirical understanding regarding how training programs for both teachers and educational staff contribute to enhancing student competencies in rapidly changing educational environments. Addressing this gap is essential because student competency development represents the primary objective of educational improvement efforts (Zhang et al., 2024).

This study offers a novel contribution by examining the effectiveness of training programs for both teachers and educational staff from a holistic perspective that links professional development directly to student competency enhancement. Unlike previous studies that predominantly focus on educator outcomes, this research investigates how improvements in professional competence influence students' cognitive, affective, and psychomotor development simultaneously. Furthermore, the study incorporates contemporary issues related to digital transformation, technological literacy, and the utilization of artificial intelligence in educational practices, areas that remain underexplored in existing literature. By integrating these dimensions, the research extends current knowledge regarding the mechanisms through which professional development contributes to educational quality. The findings are expected to provide evidence-based recommendations for policymakers and educational leaders seeking to design more effective and sustainable training programs capable of addressing current and future educational challenges.

Based on the issues, phenomena, and research gaps identified above, the central research problem concerns the extent to which training programs for teachers and educational staff effectively contribute to the enhancement of student competencies in contemporary educational settings. This study argues that well-designed and continuously implemented professional development programs strengthen educators' pedagogical, technological, and managerial competencies, which subsequently improve the quality of instructional delivery and educational services. Improved professional competence is expected to facilitate more innovative learning experiences, stronger student engagement, and better competency development across cognitive, affective, and psychomotor domains. Therefore, this research aims to analyze the effectiveness of training programs and identify factors that support or hinder their implementation. The study contributes theoretically to the literature on professional development and educational quality while providing practical implications for the formulation of sustainable educational improvement policies.

RESEARCH METHODS

This study was conducted as a collaborative research project between lecturers and students of the Islamic Educational Management Program, Faculty of Tarbiyah and Teacher Training. The research employed a qualitative case study design to gain an in-depth understanding of the effectiveness of training programs for teachers and educational staff in enhancing student competencies. A qualitative approach was selected because it allows researchers to explore participants' perspectives, experiences, and interpretations of a phenomenon within its natural setting. According to Creswell, qualitative research relies

heavily on participants' views through extensive interviews, open-ended questions, and textual data analysis to generate meaningful themes and interpretations (Safarudin et al., 2023). Furthermore, qualitative case studies are particularly suitable for examining complex educational phenomena in specific institutional contexts and for developing contextualized insights that may contribute to educational theory and practice (Syahrizal & Jailani, 2023).

The study was conducted at Ahmad Dahlan Junior High School, which was purposively selected due to its active implementation of professional development programs for teachers and educational staff. This setting provided a relevant context for examining how training initiatives influence educational practices and student competency development. Data were collected from primary sources through observations, semi-structured interviews, and document analysis. Observations were conducted to examine educational activities and training implementation directly, while interviews were used to obtain detailed information from school leaders, teachers, and educational staff regarding their experiences and perceptions of the training programs. In addition, relevant institutional documents were analyzed to complement and validate the information obtained from observations and interviews. The use of multiple data collection techniques enabled methodological triangulation and enhanced the credibility of the research findings (Muhajirin et al., 2024; Wulandari et al., 2024).

Data analysis followed the interactive model consisting of data condensation, data display, and conclusion drawing or verification. Data condensation involved selecting, simplifying, and organizing relevant information obtained from interviews, observations, and documents. Subsequently, the condensed data were systematically presented through narrative descriptions and thematic categorizations to facilitate interpretation and identify emerging patterns. The final stage involved drawing conclusions and verifying findings through continuous comparison across data sources to ensure consistency and trustworthiness. This analytical process was conducted inductively, allowing themes and interpretations to emerge directly from the empirical data rather than being predetermined by hypotheses. Such an approach is consistent with the philosophical foundation of qualitative research, which emphasizes understanding meanings, experiences, and contextual realities rather than producing generalized conclusions (Muhajirin et al., 2024; Romlah, 2021).

RESULTS AND DISCUSSION

Results

The findings of this study describe the effectiveness of training programs for teachers and educational staff in enhancing student competencies. Data were obtained through interviews, observations, and documentation conducted at the research site. The results indicate that training programs have been implemented regularly through both internal and external professional development activities.

These programs cover various areas, including curriculum development, educational administration, technology integration, and the utilization of digital learning tools. School leaders reported that participation in training activities has contributed positively to improving instructional quality and professional competence among teachers and educational staff. Furthermore, institutional support has encouraged continuous participation in training programs as part of the school’s strategy for human resource development.



Figure 1. Training Activities for Teachers and Educational Staff

Figure 1 illustrates the implementation of professional development activities attended by teachers and educational staff. The training involved collaboration with external stakeholders and focused on strengthening competencies related to curriculum development, educational management, and the integration of digital technologies into educational practices.

The findings further reveal that technology plays an important role in supporting teacher creativity and instructional innovation. Teachers have increasingly utilized digital applications and artificial intelligence (AI)-based platforms to develop more engaging and interactive learning experiences. According to participants, the use of technology has enabled teachers to access diverse learning resources and adapt instructional materials to students’ needs. However, observations also indicate that technological facilities remain limited. Access to digital resources is primarily concentrated among teachers through laptops, projectors, and other instructional tools, while student access is still restricted due to institutional policies and infrastructure limitations.

Table 1. Number of Teachers and Students

Kategori	jumlah	Tahun
Pendidik	15 orang	2026
Peserta Didik	166 orang	2026

Table 1 presents the number of teachers and students involved in the educational process. The data show that the institution employs 15 teachers who are responsible for providing educational services to 166 students, highlighting the importance of continuous professional development in maintaining instructional quality and supporting student learning outcomes.

The results also demonstrate that participation in training programs has positively influenced teacher competencies, particularly in the application of diverse teaching methods and innovative instructional strategies. Teachers reported greater confidence in designing learning activities that are more interactive, student-centered, and less monotonous. As a result, classroom learning has become more engaging and effective. Nevertheless, several challenges were identified during the implementation of training programs, including unstable internet connectivity during online training sessions and financial constraints associated with participation in fee-based professional development activities. These challenges occasionally limited the effectiveness and accessibility of training opportunities.

Interview findings support these results:

“training programs have a positive impact on improving the competencies of teachers and educational staff, particularly in the variation of teaching methods, making learning more effective, interactive, and less monotonous.”

“the improvement of teacher and educational staff competencies also has an impact on increasing students’ understanding and engagement.”

Nevertheless, several challenges were identified during the implementation of training programs, including unstable internet connectivity during online training sessions and financial constraints associated with participation in fee-based professional development activities. These challenges occasionally limited the effectiveness and accessibility of training opportunities.



Figure 2. Classroom Learning Activities Following Training Participation

Figure 2 shows classroom learning activities conducted after teachers participated in professional development programs. The figure reflects the application of training outcomes through the use of digital technologies, interactive instructional approaches, and enhanced classroom engagement strategies that support student learning.

In terms of program evaluation, participants emphasized the importance of conducting training activities on a continuous basis to ensure sustainable professional growth. Face-to-face training was generally perceived as more

effective than online training because it allows direct interaction, discussion, and immediate feedback between participants and facilitators. School leadership was also identified as a key factor supporting training effectiveness through encouragement, facilitation, and the promotion of digital competency development among teachers and educational staff. Overall, the findings indicate that the training programs have contributed positively to improving professional competencies and instructional practices, although their effectiveness remains influenced by technological, financial, and infrastructural limitations.

Discussion

The findings demonstrate that the implementation of training programs for teachers and educational staff has been conducted systematically through both internal and external professional development activities. This finding is consistent with the view that effective training should be continuous, structured, and aligned with organizational needs to enhance professional competencies and institutional performance (Joseph et al., 2025). The inclusion of curriculum development, educational administration, and technology integration within the training programs indicates that the institution adopts a comprehensive approach to human resource development. This result supports previous studies emphasizing that professional development initiatives should address pedagogical, managerial, and technological competencies simultaneously to improve educational quality. Theoretically, these findings reinforce human resource development theory by demonstrating that systematic training serves as a strategic mechanism for improving educational effectiveness. Practically, they suggest that educational institutions should maintain regular professional development programs to ensure sustainable competency enhancement.

Another important finding concerns the role of technology in strengthening teacher competencies and instructional innovation. The results reveal that teachers increasingly utilize digital platforms and artificial intelligence applications to support classroom instruction and develop more engaging learning experiences. These findings align with previous research highlighting the transformative role of educational technology in promoting creativity, instructional effectiveness, and twenty-first-century learning skills (Muin et al., 2023; Nisak & Rahmah, 2024). However, unlike studies that report widespread technology integration across all educational stakeholders, this study identified unequal access to technological resources between teachers and students. This discrepancy suggests that infrastructure readiness remains a critical determinant of successful digital transformation in schools. Consequently, educational policymakers should prioritize investments in digital infrastructure to ensure equitable access and maximize the benefits of technology-enhanced learning.

The study further demonstrates that training programs positively influence teachers' professional competencies, particularly their ability to employ diverse teaching methods and innovative instructional strategies. These findings support previous studies showing that professional development contributes to improved pedagogical competence and more effective classroom practices (Sukemi et al., 2024). The improved instructional quality reported by participants appears to contribute indirectly to student competency development through more interactive and student-centered learning environments. From a theoretical perspective, the findings strengthen the argument that teacher competency functions as a mediating factor between professional development initiatives and student learning outcomes. In practical terms, this indicates that investments in teacher training can generate long-term educational benefits extending beyond teacher performance to student achievement and competency development.

The findings also reveal several challenges affecting training effectiveness, including unstable internet connectivity, limited technological facilities, and financial constraints. These results are consistent with previous studies identifying infrastructure limitations and insufficient funding as major barriers to successful professional development implementation. Similarly, the difficulties experienced during online training support the argument that technological readiness significantly influences participant engagement and learning outcomes in digital training environments. The persistence of these challenges suggests that training effectiveness depends not only on program quality but also on organizational capacity and resource availability. Therefore, institutions seeking to strengthen professional development outcomes must address both pedagogical and structural dimensions simultaneously.

The effectiveness of the training programs observed in this study can be explained through changes in teacher behavior and instructional practices following participation in professional development activities. The findings indicate improvements in instructional delivery, learning media utilization, and classroom management, supporting the notion that effective training leads to observable behavioral changes and organizational benefits (Bhismantara et al., 2024). Nevertheless, the results also indicate that training outcomes have not yet reached their full potential because of existing infrastructural and financial limitations. This finding supports the perspective that training effectiveness is influenced by organizational support, participant readiness, and the sustainability of development programs (Hidayati et al., 2025). As a result, continuous institutional commitment remains essential for maximizing the long-term impact of training initiatives.

The novelty of this study lies in its examination of training effectiveness from a comprehensive perspective that connects teacher and educational staff development, technology integration, and student competency enhancement within a single analytical framework (Ridzky et al., 2025; Hernon et al., 2023).

While previous studies have typically focused either on teacher competency development or technology adoption separately, this research demonstrates the interconnected relationship among professional development, digital competency, instructional innovation, and student learning outcomes. The study contributes theoretically by extending current understanding of how professional development initiatives influence educational quality through multiple pathways. Practically, the findings provide evidence-based recommendations for educational leaders and policymakers regarding the importance of sustainable training programs, infrastructure improvement, and institutional support systems. Consequently, this study contributes to the growing literature on educational quality improvement and offers a framework for strengthening professional development practices in contemporary educational settings (Nashrullah et al., 2025).

CONCLUSION

This study highlights that the implementation of teacher and educational staff training programs has been systematically conducted through internal and external approaches, leading to significant improvements in professional and managerial competencies, which in turn enhance student engagement and learning outcomes as a key lesson learned from the research. The study contributes theoretically by reinforcing the concept that continuous professional development, supported by technology integration and artificial intelligence, can generate a multiplier effect between teacher competence and student learning quality within educational institutions. However, the study is limited by its focus on a single institutional context and reliance on qualitative data from a limited number of informants, which may restrict broader generalization; therefore, future research is recommended to employ a mixed-method or comparative multi-site approach and to further explore the long-term impact of training programs on student achievement and institutional performance under varying technological and infrastructural conditions.

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