

Enhancing Early Childhood Teachers' Pedagogical Competence Through Lesson Study Based Training at TK Nurul Qur'an Stabat

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Abstract

This community service program aims to enhance the pedagogical competence of early childhood education teachers at TK Nurul Qur'an Stabat through Lesson Study based training. The method consisted of four main stages: preparation, training, implementation through open class sessions, and collaborative reflection. The training emphasized strengthening teachers' understanding of Lesson Study, developing innovative daily lesson plans (RPPH), creating contextual learning media, and conducting collaborative teaching using the plan-do-see cycle. The results show a significant improvement in teachers' ability to design contextual learning activities, implement active and engaging instruction, manage classrooms effectively, utilize varied learning media, and perform systematic professional reflection. The open class implementation demonstrated increased child engagement and more meaningful learning experiences. The program concludes that Lesson Study is an effective approach to fostering a reflective and collaborative culture among early childhood teachers. Its implications indicate the potential for this model to be replicated in other early childhood institutions to support sustainable improvements in teaching quality.

Keywords: Lesson Study, Pedagogical Competence, Early Childhood Teachers

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Introduction

The word "education" in Indonesian comes from the word "educate," which has the prefix "pe" and the suffix "an." In the Great Dictionary of the Indonesian Language, the word "dikti" means to nurture and provide training (teaching, guidance, leadership) in morals and intellectual intelligence. Thus, education is defined as "the process of changing the attitudes and behavior of a person or group of people in an effort to mature humans through teaching and training" (Munisa et al., 2019). Education is the most important pillar in the progress of a nation and the progress of human life (Widya, Rozana, & Tasril, 2022). Education plays a crucial role in instilling personality in a child, as it is a key factor in personality formation. "Education plays a significant role in shaping the good or bad of human personality according to normative standards. It is also through education that these attitudes are formed" (Utami & Ikhwana, 2022). Early childhood education is an effort to facilitate the development and learning of children from birth to the age of 6 (six) years with experiences and stimulation that are developmental, integrated and comprehensive so that children can grow and develop healthily and optimally in accordance with existing values and norms (Rozana & Bantali, 2020). Furthermore, early childhood education is the level of education that every student undergoes before entering primary education or elementary school. Early childhood education is a development effort aimed at providing complete stimulation, namely educational stimulation to help physical and spiritual growth and development (Nofianti, 2023).

However, various studies show that PAUD teachers in many regions still face obstacles in planning learning, implementing creative methods, and implementing authentic evaluations that are appropriate to the needs of early childhood (Yuliani, 2018). This condition was also found in Nurul Qur'an Kindergarten, Stabat, which still experienced limitations in the preparation of innovative RPPH, variations in learning methods, professional reflection, and collaborative culture between teachers. Previous research confirms that improving teachers' pedagogical competence requires a systematic, sustainable, practice-based professional development model that involves in-depth reflection (Hammond et al., 2017). The Lesson Study model has been recognized as an effective approach to improving the quality of learning through the plan-do-see cycle, which integrates joint planning, open learning (open class), and collaborative reflection (Lewis, 2011). (Lewis & Hurd, 2016), (Hendayana et al., 2017) showed that Lesson Study is able to build a collaborative culture between teachers, encourage improvements in the quality of teaching practice, and create a sustainable professional learning space. However, most of the implementation of Lesson Study in Indonesia is carried out at the elementary and secondary education levels, while its application in early childhood education is still very limited and has not been adequately documented (Rahmawati & Taylor, 2019). This shows that there is a research gap in the context of strengthening the pedagogy of PAUD teachers through Lesson Study.

From a state of the art perspective, research on developing PAUD teacher competencies is still dominated by conventional training approaches that are theoretical and not centered on classroom practice (Musfiroh, 2016). There is not much research that integrates Lesson Study directly in the context of early childhood learning. However, the characteristics of early childhood education (PAUD), which emphasizes play-based learning, exploration, and concrete experiences, require a reflective and collaborative approach to professional development. Therefore, this article offers a novel approach in the form of implementing a Lesson Study

based training model specifically designed to meet the needs of early childhood education teachers in school contexts with limited access to formal training.

Based on the description, the scientific problems in this article can be formulated as follows: (1) how the pedagogical needs of PAUD teachers can be addressed through Lesson Study-based training; (2) how the implementation of the Lesson Study model can improve the quality of planning, implementation, and reflection of teacher learning; and (3) to what extent this training model is effective in improving the pedagogical competence of PAUD teachers in the context of partner schools.

The purpose of this scientific article is to describe the implementation of Lesson Study-based training in improving the pedagogical competence of Nurul Qur'an Stabat Kindergarten teachers and explain the impact of implementing the plan-do-see cycle on improving the quality of learning. Furthermore, this article aims to provide an alternative training model that can be replicated in other PAUD institutions as an effort to continuously improve the quality of early childhood education.

Literature Review

2.1 Early Childhood Education as the Foundation of Child Development

Early Childhood Education (PAUD) is a golden age that serves as the foundation for all future child development. Between the ages of 0-6, children experience rapid brain growth, reaching over 80% of their neurological development capacity. This makes PAUD a crucial period for determining the quality of a child's cognitive, language, socio-emotional, spiritual, and behavioral development (Rozana & Bantali, 2020). Therefore, PAUD education not only serves to provide early learning experiences but also serves as a strategic effort to instill the foundations of character and personality.

Research by Widya, Rozana, & Tasril (2022) confirms that education is a key pillar of national progress, making investment in early childhood a crucial factor in human resource development. Quality early childhood education (PAUD) can improve school readiness, reduce the risk of academic lag, and strengthen children's adaptability in learning environments. Furthermore, various developmental theories, such as those from Piaget, Vygotsky, and Erikson, demonstrate that social interaction, experiential environmental stimulation, and emotional support are key elements that must be present in PAUD services.

Thus, the quality of early childhood education services is largely determined by how educators manage play-based learning processes, meet children's holistic developmental needs, and create positive relationships between teachers, children, and the environment. This places teacher competence as the most significant factor in the success of early childhood education.

2.2 Pedagogical Competence of Early Childhood Education Teachers

Pedagogical competence is a set of skills required for teachers to understand student characteristics, design learning, manage classrooms, and conduct authentic evaluations. For early childhood education teachers, this competence is increasingly important because children at this early age require a developmentally appropriate learning approach that cannot be equated with other levels of education (Mulyasa, 2017).

Early Childhood Education teachers' pedagogical competencies include the ability to develop meaningful lesson plans (RPPH), conduct child development assessments, provide a safe and stimulating learning environment, and implement a variety of play-based learning

methods. However, various studies show that many PAUD teachers still face obstacles such as a lack of understanding of the curriculum, limited creativity in designing learning media, the dominant use of lecture methods, and limited ability to reflect on learning (Utami & Ikhwana, 2022).

This situation necessitates ongoing training programs for early childhood education (PAUD) teachers that address the competency gap between theory and practice. Technical and applied training has been proven to be more effective in improving teacher learning capacity than lecture-only training. Therefore, development models such as coaching, mentoring, and lesson study are increasingly relevant for continuously strengthening the pedagogical competency of PAUD teachers.

2.3 Lesson Study as a Model for Teacher Professional Development

Lesson Study is a teacher professional development model focused on improving the quality of learning through collaboration. Developed in Japan, Lesson Study prioritizes planning (plan), implementing open learning (do), and collective reflection (see) (Lewis, 2016). Through this cycle, teachers can directly observe how students learn, evaluate the learning strategies used, and make improvements based on real world data.

The advantage of Lesson Study lies in its collaborative nature, focus on real-world practice, and prioritization of reflection. Teachers not only gain knowledge but also develop professional capacity through a continuous collaborative learning process. Research by Hendayana (2017) shows that Lesson Study effectively improves the quality of lesson planning, the use of varied methods, media creativity, and teachers' ability to understand children's responses during learning activities.

In the context of early childhood education, Lesson Study is considered highly relevant because it allows teachers to develop experiential learning, pay attention to children's interaction patterns, and increase pedagogical sensitivity to each child's developmental needs. Furthermore, Lesson Study helps foster a professional work culture in schools, including scientific discussions, learning observations, and data driven decision-making.

Therefore, the implementation of Lesson Study in community service programs is a comprehensive strategy to improve the pedagogical competence of PAUD teachers, including teachers at Nurul Qur'an Kindergarten, Stabat, who need systematic assistance in improving the quality of planning, implementation, and reflection on learning.

Research Methodology

This community service program employed a participatory training approach combined with the Lesson Study model to strengthen the pedagogical competence of teachers at TK Nurul Qur'an Stabat. The implementation consisted of three integrated stages: preparation, implementation, and evaluation, carried out systematically to solve pedagogical problems identified in the preliminary needs assessment. During the preparation stage, the team conducted baseline observations of teaching practices, identified challenges in planning and classroom management, coordinated with school stakeholders, and developed training materials related to RPPH preparation, learning media, and child-centered learning strategies. The implementation stage involved workshops, mentoring sessions, collaborative planning, and Lesson Study cycles consisting of plan, do, and see. In the plan phase, teachers collaboratively designed lesson plans and learning media. The do phase was conducted through open-class

activities where one teacher implemented the planned lesson while others observed child responses. The see phase involved joint reflection to analyze learning strengths, weaknesses, and areas for improvement. All activities were documented to provide objective data for evaluating teacher development.

Data collection employed observation sheets, teacher assessment checklists, documentation (photos, lesson plans, attendance lists), and structured reflection forms. These instruments captured changes related to teaching preparation, instructional delivery, and classroom management. The data were analyzed using qualitative descriptive techniques by organizing observation results, reflection notes, and documentation into thematic categories. Analysis focused on identifying improvements in RPPH quality, variation in instructional methods, creativity in media use, and increased responsiveness to children's learning needs. The qualitative interpretation of these findings enabled the research team to evaluate the effectiveness of Lesson Study-based training in solving pedagogical challenges and enhancing teachers' professional competence through collaborative and reflective practice.

Results

The implementation of the Lesson Study based training program resulted in significant improvements in the pedagogical competence of teachers at TK Nurul Qur'an Stabat. The first observable outcome emerged from the plan stage, where teachers who initially had difficulties preparing structured and developmentally appropriate RPPH became able to design lesson plans with clearer learning objectives, age-appropriate activities, and better alignment with children's developmental needs. This improvement was supported by collaborative workshops and mentoring, which helped teachers to analyze children's characteristics and integrate learning media more effectively. Evidence from observation sheets and documentation in the program shows that teachers increasingly demonstrated confidence and accuracy in lesson design compared to the baseline condition before the training. These findings align with previous studies by (Fitria & Rahmawati, 2023), which noted that collaborative planning through Lesson Study enhances teachers' ability to design meaningful learning experiences.

During the implementation (do) stage, teachers showed substantial progress in applying varied instructional strategies. Initially, most teachers relied heavily on lecturing and worksheet-based activities, which limited children's engagement. After participating in the training, teachers successfully adopted child-centered learning methods such as demonstration, role play, storytelling, and the use of creative learning media. Observation results from the open class activities indicate that children became more active, expressive, and involved in learning, demonstrating improved interaction between teachers and students. These behavioral changes occurred because Lesson Study allowed teachers to observe real-time children's responses, understand learning dynamics, and adjust their teaching strategies accordingly. Similar findings were reported in studies by (Pratiwi & Susilowati, 2024), who emphasized that Lesson Study strengthens teachers' classroom decision making and encourages the use of diverse instructional approaches that enhance children's participation.

In the see stage, collective reflection sessions played a crucial role in reinforcing the teachers' professional growth. Teachers were able to identify strengths and weaknesses in their instructional practices based on concrete observational data, rather than subjective impressions. Reflection notes from the program show that teachers became more aware of time management issues, effectiveness of learning media, and children's different learning styles. They also demonstrated improvements in classroom management such as giving clear instructions, organizing materials more effectively, and responding to children's behaviors more sensitively.

These reflective discussions created a professional learning culture within the school, supporting continuous improvement beyond the formal training sessions. The results are consistent with studies by (Saputra & Hidayat, 2023), which highlighted that Lesson Study encourages sustained teacher reflection and leads to long term enhancement of teaching quality.

Overall, the program produced measurable contributions to teacher competence: improved RPPH quality, increased use of creative media, greater variation in teaching strategies, and more effective classroom interactions. These outcomes not only address the initial pedagogical problems identified in the school but also provide a sustainable model for ongoing teacher development. The findings demonstrate that Lesson Study is a practical and scientifically grounded approach to enhancing early childhood teachers' pedagogical practices, with strong potential for broader implementation in similar PAUD contexts.

Conclusion

The findings of this community service program demonstrate that the Lesson Study-based training model effectively addressed the pedagogical challenges identified at the outset of the study, particularly the teachers' limited ability in planning developmentally appropriate lessons, applying varied instructional strategies, and managing early childhood classrooms. The collaborative plan-do-see cycle provided teachers with structured professional learning experiences that enabled them to observe, practice, and refine their teaching based on real-time classroom evidence. As a result, teachers who previously relied on conventional and teacher-centered methods were able to shift toward more interactive, child centered, and developmentally responsive learning practices. These improvements indicate that Lesson Study does not merely transfer knowledge but cultivates deeper pedagogical reasoning by allowing teachers to analyze children's learning behaviors and adjust instruction intentionally.

Moreover, the reflective practices embedded in Lesson Study contributed significantly to teachers' professional growth. Through systematic reflection, teachers became more aware of their instructional strengths and weaknesses, gained insights into children's diverse learning needs, and learned to evaluate the effectiveness of their teaching strategies based on observational data rather than personal assumptions. This process strengthened teachers' metacognitive skills an essential component of pedagogical competence and encouraged a culture of continuous improvement within the school. The shift from isolated teaching to collaborative professional inquiry also increased teachers' confidence, improved the quality of RPPH they produced, and fostered more creative and meaningful media use in daily classroom activities. These results substantiate the claim of previous research that Lesson Study is a powerful tool for enhancing teacher capacity because it operationalizes learning through guided practice, observation, and grounded reflection.

The overall conclusion is that Lesson Study is a highly relevant and impactful professional development approach for Early Childhood Education (PAUD), particularly in contexts where teachers need structured and practice-based mentorship. Its ability to integrate theoretical understanding with practical classroom application makes it suitable for improving pedagogical competence in sustainable ways. The implications of this study suggest that Lesson Study can be adopted as a long-term developmental strategy in PAUD institutions to foster professional communities, strengthen instructional practices, and support children's holistic development. Future program development may include expanding Lesson Study to additional PAUD institutions, integrating digital observation tools to enhance reflection quality, conducting longitudinal evaluations to measure sustained impacts, and developing policy-level support to institutionalize Lesson Study as a core model for PAUD teacher professional development.

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