

## Optimizing Management of Facilities and Infrastructure to Enhance Learning Quality in TK Amanah

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### ABSTRACT

Educational facilities and infrastructure play a central role in establishing effective learning processes in early childhood education institutions. This research aims to examine how the management of facilities and infrastructure is implemented at TK Islam Amanah and to explore optimization strategies that can support the enhancement of learning quality. The method used is a qualitative approach with a case study design. Data was gathered through observation, in-depth interviews, and documentation, involving the school principal and teachers as key informants. The findings indicate that the management of facilities and infrastructure at TK Islam Amanah is reasonably well-executed, although constraints persist in the areas of maintenance and inventory administration. The available learning facilities, such as organized classrooms, outdoor play areas, and Educational Play Tools (APE), support children's cognitive, socio-emotional, and motor development. Teachers demonstrate initiative in utilizing natural materials and recycled goods as alternative learning media. Furthermore, the involvement of the principal, teachers, and parents in maintaining and caring for school facilities is a crucial factor in creating a comfortable, safe learning environment that fosters children's enthusiasm for learning.

**Keywords:** *Facilities management; Infrastructure management; ECE; Learning Quality.*

### INTRODUCTION

Early childhood (0-6 years) is a determining "Golden Age" period where children's intellectual potential develops more rapidly than in subsequent periods (Arifah & Naqiyah, 2025). Early Childhood Education (ECE) involves systematic educational stimulation provided to children from birth up to six years of age. ECE institutions are organized to comprehensively facilitate the growth and development of young children, establishing the most critical foundation for their later life stages (Dini, D. P. A. U., 2014). Law Number 20 of 2003 on the National Education System emphasizes the importance of ECE, stating that this phase requires an open environment for children's minds (Saputra, 2019). Development theories, such as Montessori's stages, and principles like those of Ki Hajar Dewantara (caring, sharpening skills, guiding), underscore the need for high-quality educational environments.

One core element determining the quality of this environment is the adequacy of educational facilities and infrastructure. As stated by Azzahra (2024), the enhancement of learning quality is highly dependent on the effective management of these provisions. However, real-world practice shows that management in many ECE units/Kindergartens still faces constraints. The mismatch between the quantity and condition of resources and children's pedagogical needs is a primary issue. Challenges such as cramped classrooms, limited Educational Play Tools (APE), and outdoor spaces that do not support exploration reflect a weak alignment between facilities and pedagogical requirements (Tri Inawati, 2014). This problem is exacerbated by unsystematic management processes. Ideally, management phases—planning, procurement, inventory, utilization, and maintenance—should be integrated and continuously documented (Hasliadi & Juwita, 2024), but often are not. Furthermore, limitations in human resources, budget, and institutional management hinder the optimal utilization of facilities (Azzahra, 2024). Issues also arise in maintenance and usage, where available facilities are often underutilized or poorly maintained, leading to rapid deterioration and failure to meet learning standards (Hanif, 2024).

The impact of these conditions on learning quality is significant. The learning environment becomes less conducive as the physical condition of spaces, tools, and the surroundings directly influence children's comfort and motivation to participate actively. Resource limitations restrict children's opportunities for exploration, creativity, and interaction, ultimately diminishing learning effectiveness (Lya Jevi, 2025; Suhardi, 2024). Beyond pedagogical consequences, weak management can lead to cost inefficiency, as damaged facilities necessitate greater expenses for re-procurement and repair (Azzahra, 2024). The quality of facilities management also affects the institution's image and competitiveness, as schools failing to provide adequate, well-maintained resources are less appealing to the community (Hanif, 2024). Thus, the optimization of facilities and infrastructure management is not just an administrative requirement but a key factor in creating a quality, effective, and competitive learning environment (Setyaningsih, 2021; Arifah & Naqiyah, 2025). Effective management provides the necessary operational structure for educational tasks to be carried out efficiently towards established goals (Setyaningsih, 2021).

Previous research has highlighted the importance of facilities management in improving ECE quality. For instance, Anggraini & Lestari (2022) discussed general management, while Rohiyatun & Najwa (2021) emphasized planning, utilization, and maintenance processes. However, most studies have not deeply focused on the implementation of management within a specific, single institution. This research

offers novelty by specifically analyzing the management of facilities and infrastructure at TK Amanah, and directly examining its correlation with the enhancement of early childhood learning quality. In addition to assessing the actual condition of facilities, this study explores contextual and applicable optimization strategies tailored to the institution's needs (Suranto et al., 2022). Furthermore, drawing from Hamzah's (2025) work on resource fulfillment strategies, this research aims to analyze the collaborative and evaluative approaches used at TK Amanah.

Based on this background, this study aims to: (1) analyze the current state of facilities and infrastructure management at TK Amanah, covering planning, procurement, inventory, utilization, maintenance, and disposal; (2) describe the influence of this management on the quality of early childhood learning; and (3) formulate effective and sustainable optimization strategies for management to improve learning quality at TK Amanah. More comprehensively, the research seeks to analyze the internal and external factors supporting and constraining the implementation, and to formulate a contextual, applicable, and sustainable optimization strategy model as a best practice reference for other ECE institutions.

## **METHODS**

### **Subjects of Research**

This research employed a qualitative approach utilizing a case study design. This approach was specifically chosen to acquire an in-depth, profound, and natural understanding of the process through which facilities and infrastructure management is executed at TK Islam Amanah to enhance learning quality. According to Sugiyono (2019), qualitative research is optimal for studying phenomena in their natural settings, emphasizing meaning and inductive analysis. The selection of the case study design was justified because the research focused intensively on this single Early Childhood Education (ECE) institution as the unit of analysis. As Creswell (2014) notes, a case study is a strategy that allows for the deep examination of an event or process involving individuals within a real-life context using multiple sources of information.

The study was conducted at TK Islam Amanah, located on Jl. Revolusi, Sungai Kunjang District, Samarinda City, East Kalimantan, during October 2025. The research subjects were selected using purposive sampling, which included the Head of the Institution and teachers. These individuals were chosen based on the critical consideration that they possessed the most relevant and detailed information concerning the planning, management strategies, and maintenance of facilities and infrastructure within the school.

### **Instruments**

Data collection employed three complementary techniques to ensure triangulation and comprehensive coverage: (1) Direct Observation: This involved physically assessing the real condition, availability, and specific utilization of the facilities and infrastructure during learning activities. (2) In-depth Interviews: Interviews were conducted with the principal and teachers to obtain detailed information on the strategic management, planning processes, maintenance protocols, and challenges related to facilities and infrastructure. And (3) Documentation: This technique involved collecting supportive secondary data, including activity photographs, inventory lists of assets, and official institutional program documents.

### **Data Collection**

Data analysis utilized the model proposed by Miles and Huberman (1994), which consists of three sequential and iterative stages: Data Reduction, Data Display, and Conclusion Drawing/Verification. (1) Data Reduction: This stage involved selecting, focusing, and simplifying the vast amount of raw information gathered from interviews, observations, and documentation. Only data directly relevant to the management of facilities and infrastructure were retained as key information. (2) Data Display: The filtered and reduced information was then organized into coherent, descriptive narratives and thematic structures. This step made the data accessible and comprehensible, facilitating the identification of patterns. And (3) Conclusion Drawing/Verification: In the final stage, the researcher interpreted the displayed data by identifying recurring patterns, relationships between management actions and facility utilization, and overarching meanings derived from the findings. This analytical process was conducted continuously throughout the entire data collection period until the final stage, ensuring that the conclusions reached were profound, valid, and accurately reflected the empirical reality of the case.

## **RESULTS AND DISCUSSION**

The research findings indicate that the management of facilities and infrastructure at TK Islam Amanah is reasonably well-executed, although certain constraints related to maintenance and administrative inventory management were identified. Based on observations and interviews, the institution possesses various facilities that support early childhood learning activities, such as clean and comfortable classrooms, outdoor play areas, and Educational Play Tools (APE), including slides, swings, climbing frames, and merry-go-rounds. These facilities play a crucial role in supporting children's motor, socio-emotional, and cognitive development through meaningful play activities. Learning at TK Islam Amanah employs a Center-Based

Approach (Block Center, Art Center, Nature Center, and Role-Play Center), with each designed to comprehensively develop children's potential. This finding is consistent with Rohiyatun & Najwa (2021), who emphasize that adequate and age-appropriate infrastructure enhances learning interest and creates a conducive class atmosphere.

In the aspects of planning and procurement, the principal and teachers are actively involved in determining priority needs based on classroom conditions and learning activities. Facility procurement aligns with the school's operational budget, sourced from tuition fees (SPP), the Operational Assistance Fund (BOP), and parental support via the school committee. This process exemplifies a participatory management practice, where decisions are made collaboratively, aligning with Suhardi et al. (2024)'s findings that collaborative planning in ECE ensures relevance to actual needs and promotes shared responsibility.

The utilization of facilities at TK Islam Amanah is considered optimal, as teachers skillfully integrate existing resources with thematic learning activities. For example, teachers use natural materials like leaves, sand, and stones to introduce environmental concepts, or recycle waste materials into learning aids. This innovation demonstrates teacher creativity in overcoming limitations in manufactured APE and reflects principles of efficiency and sustainability. Hasliadi & Juwita (2024) similarly found that educator creativity in utilizing local resources can enhance learning effectiveness independently of commercial tools. Regarding maintenance, facility upkeep at TK Islam Amanah is currently incidental rather than systematically scheduled, typically occurring when minor damage is found or before significant events like accreditation. The absence of a dedicated administrative officer results in manual inventory record-keeping, which reduces the efficiency of facility oversight. This situation reflects challenges faced by many ECE institutions concerning routine maintenance and inventory systems due to limited technical staff and operational funds (Syukri et al., 2023).

Nevertheless, the collaborative spirit among the principal, teachers, and the school committee is the main strength in maintaining a safe and organized learning environment. Regular community service (*kerja bakti*), school greening initiatives, and involving parents in facility care are concrete examples of the participatory leadership practiced at the institution. This synergy between the school and families strengthens the sustainability of the learning program, which is based on values of togetherness and social responsibility. Jannah et al. (2023) affirm that parental involvement in ECE facility maintenance enhances ownership and builds a harmonious educational ecosystem.

These research findings show that the quality of learning at TK Islam Amanah is significantly influenced by the effectiveness of facilities and infrastructure management. Well-organized facilities and a safe environment encourage children to be more active, focused, and enthusiastic learners. The creativity of teachers in creating simple media from recycled materials demonstrates that resource limitations are not insurmountable obstacles when managed with innovative and collaborative strategies. Thus, optimizing facilities management in ECE is not merely about funding availability, but about how the principal, teachers, and parents can synergize to create a stimulative, sustainable, and meaningful learning environment for early childhood.

## CONCLUSION

Based on the research findings, it is concluded that the management of facilities and infrastructure at TK Islam Amanah has been reasonably well-executed through the stages of planning, procurement, utilization, and maintenance. The availability of adequate facilities, such as comfortable classrooms, play areas, and Educational Play Tools (APE), serves as the main supporting factor in establishing a conducive learning environment for early childhood. However, constraints remain in the aspects of maintenance and administrative inventory management, which are not yet systematically implemented. Optimization efforts are realized through teacher creativity in utilizing local and recycled materials as learning media, and through collaboration among the principal, teachers, and parents in maintaining facility sustainability. The enhancement of learning quality at TK Islam Amanah can be achieved if the management of facilities and infrastructure is conducted in a planned, participatory, and sustainable manner. The institution must also strengthen its system for routine maintenance and administrative inventory oversight to ensure resource management is more efficient and effectively supports meaningful learning processes for early childhood.

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