



Beyond Infrastructure: How Supervision and Collaboration Shape Effective Islamic Religious Education in Resource-Limited Schools

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Abstract :

This study investigates how learning facilities and infrastructure are managed and utilized to support Islamic Religious Education in an elementary school context. The research aims to provide an in-depth understanding of how prayer rooms, teaching aids, and digital media shape students' learning experiences, particularly in situations where facility limitations remain a structural challenge. Using a qualitative descriptive design, data were collected through semi-structured interviews, field observations, and document analysis involving principals, teachers, students, and school committee members. The findings reveal that systematic supervision plays a crucial role in guiding teachers to make the most of available resources. In contrast, teachers' creativity contributes to the development of additional teaching aids that enhance instructional quality. The study also highlights the importance of collaborative engagement among school residents to support the maintenance and sustainability of learning facilities. These interactions create a supportive environment where even limited facilities can function effectively for religious learning. The implications suggest that schools need adaptive strategies to ensure that learning facilities are sustainably integrated into instructional processes, particularly within resource-constrained settings.

INTRODUCTION

Islamic Religious Education learning in elementary schools is still faced with structural problems rooted in inequality in educational facilities and infrastructure. From a Freirean critical pedagogy perspective, the inequality in access to facilities reflects power relations that limit students' opportunities for meaningful learning experiences (Cappiali, 2023; Corbett & Guilherme, 2021; Majola et al., 2025). The quality of the learning environment is not only technical but also related to essential processes of producing and reproducing educational injustices at the institutional level. Wanke et al.'s (2024) study shows that school infrastructure significantly affects student performance. However, conditions in many elementary schools show that fundamental facilities such as prayer rooms, teaching aids, and learning media are often inadequate. Weak facility management also worsens the situation, as utilization declines and learning effectiveness decreases. The limited facilities not only hinder the learning process but also impede the development of religious practices that require specialized spaces and devices (Rech, 2024; Sun et al., 2022). This problem cannot be seen as a purely operational issue. This situation reflects the absence of policies that are sensitive to the needs of religious learning at the elementary school level. Therefore, research on the use of PAI infrastructure is important to identify and address structural inequalities in the management of educational facilities.

Various literature has examined the relationship between school facilities and learning outcomes from the aspects of motivation, student involvement, and academic performance. Swai et al. (2022) show that effective management of facilities and infrastructure significantly influences teacher motivation and student satisfaction. Studies at the secondary school level have also found that infrastructure, such as classrooms, laboratories, and public facilities, plays a role in increasing learning effectiveness and stakeholder satisfaction (Aidoo et al., 2022; Kumar et al., 2023; Mohd Basar et al., 2021). In addition, the research conducted by Charles et al. (2025) shows that the quality of school infrastructure contributes to student engagement and performance. Nonetheless, most of those studies focused on the context of public schools or public education. Research that examines PAI explicitly is still limited. In addition, the approach used is often quantitative and is less able to explain how social, pedagogical, and managerial processes affect the use of facilities in the religious education environment.

This gap shows that there is still little qualitative research examining in depth the practice of facility utilization and management in the context of PAI in elementary schools. Studies on how teachers, students, and school management interact in using facilities for religious learning are still limited. This research seeks to fill this gap through a contextual and qualitative approach at SD 02 Pecangaan Wetan. Its contribution lies in presenting a holistic understanding of the dynamics of facility and infrastructure management, not only the physical aspects but also the managerial, pedagogical, and collaborative aspects. This combination is still rarely described in the literature.

Based on this background, this study aims to describe how PAI learning facilities and infrastructure are managed and utilized in SD 02 Pecangaan Wetan. The research also examines how teachers and students utilize existing facilities and how school management practices and collaboration affect the quality of religious learning. In addition, the research explores the obstacles and adaptive strategies that arise in situations of limited facilities, to produce practical recommendations for the management of facilities in religion-based elementary schools.

The focus of this study is on the actual use of facilities such as prayer rooms, classrooms, props, media, and learning rooms. The study also highlighted the interactions among school residents, including principals, teachers, students, and committees, in maintaining and optimizing these facilities. A qualitative approach allows research to capture the nuances and complexities of such practices in greater depth. The findings are expected to provide a contextual picture of how the physical and social environments of schools work together to support PAI learning. This picture also raises questions about the policy on religious education facilities at the elementary school level.

RESEARCH METHOD

This study uses a qualitative, descriptive research approach (Bazen et al., 2021; Pyo et al., 2023; Younas et al., 2023). This type of research is designed to understand in depth the practice of using facilities and infrastructure in supporting the learning of Islamic Religious Education (PAI) at SD 02 Pecangaan Wetan. This approach was chosen because it can comprehensively describe real conditions in the field, including the patterns of facility utilization by teachers and students and the dynamics of learning facility management in schools (Gonzalez Guzman et al., 2022; Maizana & Putri, 2022; Tang et al., 2022). The descriptive research design allows for detailed exploration of the phenomenon being studied without manipulating the variables, making it suitable for examining the natural context of education. Using a qualitative approach, data are collected in the form of narratives, actions, and documents that have meaning for facility

management practice. Researchers serve as the primary instruments for data collection and interpretation, enabling a holistic understanding of the implementation of infrastructure facilities in primary schools (Aguas, 2022; Jain, 2021; Yoon & Uliassi, 2022).

Data collection was carried out through semi-structured interviews, field findings, and document analysis, which were chosen because they complemented each other to provide a comprehensive picture of the utilization of PAI learning facilities. Observation was used to assess the physical condition of the facilities, the pattern of use of PAI learning media, and the interaction between teachers and students during facility utilization. Interviews were conducted with principals, PAI teachers, students, and school committees to gather in-depth information on strategies, barriers, and supervisory practices. Documentation, including facility inventories, supervision reports, activity photos, and school archives, was used to strengthen the findings. The research informants used in this study are shown in Table 1.

Table 1. Research Informant

Informant	Description of Roles in Research
Principal	Provide in-depth information about the supervision practices of learning facilities, facilities management policies, and strategies to improve the quality of PAI learning.
Good Teacher	Explain the implementation of the use of facilities, learning media innovations, as well as obstacles and needs in the PAI learning process.
Student	Provide a direct experience perspective related to the use of facilities, learning comfort, and the effectiveness of facilities in supporting worship practices and material understanding.
School Committee	Convey support for the provision of facilities, the role of the community in the maintenance of facilities, and contributions to the sustainability of educational facilities.

The data analysis in this study follows the Miles, Huberman, and Saldaña (2014) model, which consists of data reduction, data presentation, and withdrawal Conclusion (Asipi et al., 2022; Gutierrez-Franco et al., 2021; Ray et al., 2021). Data reduction involves sorting important information from interviews, observations, and documents to form categories such as facility supervision, use of learning media, and collaboration among school residents. Data presentation is carried out through a thematic matrix to facilitate the identification of patterns and relationships between categories. The analysis process is carried out in conjunction with data collection, enabling researchers to capture patterns and make necessary adjustments. The chosen analytical technique aligns with the character of qualitative research, which emphasizes an in-depth understanding of phenomena and allows for a thorough exploration of the school context within the framework of a descriptive case study.

RESULT AND DISCUSSION

Result

Supervision of Facilities and Infrastructure

These findings show that the supervision of facilities and infrastructure follows systematic steps to ensure that school facilities function optimally in supporting the learning of Islamic Religious Education (PAI). Supervision is understood as a series of coaching, monitoring, and evaluation that provides concrete direction to teachers regarding the use of facilities. Within the scope of PAI, the presence of prayer rooms, worship props, posters on ablution and prayer procedures, and simple digital media contribute to creating a contextual learning experience. Therefore, supervision activities

do not stop at verifying the availability of facilities; they also assess their suitability and relevance to pedagogical needs. When supervision is systematically designed, teachers can develop learning innovations while maintaining the sustainability of facility use. The focus of these findings confirms that the quality of PAI learning is closely related to how facilities are managed, utilized, and improved through continuous supervision.

Information about the practice of supervising facilities and infrastructure is clearly evident in the informants' explanations. The principal emphasized that supervision is a strategy to increase the use of available facilities. He stated that supervision is carried out regularly so that teachers are not fixated on the lecture method, but are encouraged to use learning facilities even though the conditions are limited. This view is in line with the experience of PAI teachers who feel real direction and encouragement from supervision. The teacher considers the prayer room an important part of worship, while posters and simple tools help clarify the material. Supervision guides that direct the use of facilities and support student understanding.

The principal's statement shows that supervision has a structural dimension that guides teachers' use of learning facilities. Supervision serves as a regulatory mechanism that ensures facilities are used in accordance with pedagogical goals. Meanwhile, the quote from PAI teachers illustrates the pedagogical response to supervision: the increased use of prayer rooms, posters, and teaching aids to support students' understanding. Analysis of the two citations reveals a functional relationship between supervision and learning practice. Supervision serves as a driving force, providing direction and reminders, while teachers realize it through concrete actions in the classroom. The interaction showed that the use of facilities depends not only on their availability but also on the intensity of direction, mentoring, and supervision received by teachers. The impact can be seen in changes in teachers' professional behavior, with a more structured approach to preparing and using PAI learning facilities. These findings confirm that supervision is a strategic component in improving the quality of learning through appropriately managed facilities oriented to instructional needs.

Based on these findings, the patterns of facility utilization that emerge are shown in Table 1. This data makes it clear how each type of facility contributes differently to PAI learning. The prayer room serves as a space for worship practice where students can gain hands-on experience. Posters, prayer cards, and simple props help teachers convey material visually, making it easier to understand. Simple digital media offers a variety of methods to capture students' attention. Classroom layout creates a more purposeful learning environment. Each form of facility utilization shows a direct link between the quality of facilities and the effectiveness of learning.

Table 2. Utilization of Facilities and Their Impact on PAI Learning

Form of Facility Utilization	Impact on PAI Learning
Mushala for worship practice	Students understand worship through hands-on experience
Posters, prayer cards, simple props	Material is easier to understand and more engaging
Simple digital media	Increase the variety of methods and increase students' attention
Supportive classroom layout	A more focused and conducive learning environment

The study's findings show that facility and infrastructure supervision make a real contribution to improving the quality of PAI learning in SD 02 Pecangaan Wetan. Supervision ensures that facilities are used in line with learning objectives and guides teachers in maximizing the potential of available facilities. Teachers' creativity develops because of consistent direction, so learning remains interesting despite limited facilities.

The use of prayer rooms, simple props, and digital media has been proven to strengthen students' understanding of worship practices and Islamic values. Regular supervision also supports the sustainability of facility maintenance, keeping the facilities fit for use. These findings show that supervision is a strategic link between the existence of facilities and the quality of PAI learning practices.

The Role of Teachers in the Utilization of Learning Facilities

These findings highlight the role of teachers in using learning facilities to improve the quality of Islamic Religious Education (PAI) learning. The use of facilities extends beyond physical facilities to include teachers' ability to integrate teaching aids, prayer rooms, and simple digital media into the learning flow. At the elementary school level, teachers become actors who determine the extent to which facilities enhance students' learning experiences. Therefore, the use of facilities requires planning that aligns with learning objectives and student needs. This is as conveyed by one of the teachers:

"For worship practice, prayer rooms are beneficial because students can directly practice ablution and prayer. With simple posters and tools, students can easily understand the material." The student's information strengthened this view. Yang explained, "If I study in the prayer room, I understand better how to pray because I can immediately practice. The teacher sometimes gave us props so that we wouldn't get confused." From this, it is shown that teachers play an active role in connecting the availability of facilities with learning needs. Facility use is integrated directly into the learning process, so students have the opportunity to understand the material through concrete experiences. This practice shows that facilities not only serve as supports, but are part of pedagogical strategies that strengthen students' understanding of PAI materials.

In addition, the teacher prepares facilities before learning starts. Prayer procedure posters, worship pictures, and ablution props are arranged systematically so that they can be used quickly during the learning process. The prayer room is routinely used as a worship practice room, and the teacher guides students through every step of the worship process. Simple digital media, such as short videos about worship procedures, are played through school laptops to increase the variety of learning methods. Teachers also show creativity by modifying props from simple materials and creating prayer cards for learning activities.

The series of activities shows that teachers not only make use of the facilities already available but also develop teaching materials tailored to the class's needs. These findings confirm that teachers' roles are the main determinants of how facilities are used and optimized to support the achievement of PAI learning goals, as shown in Figure 1.

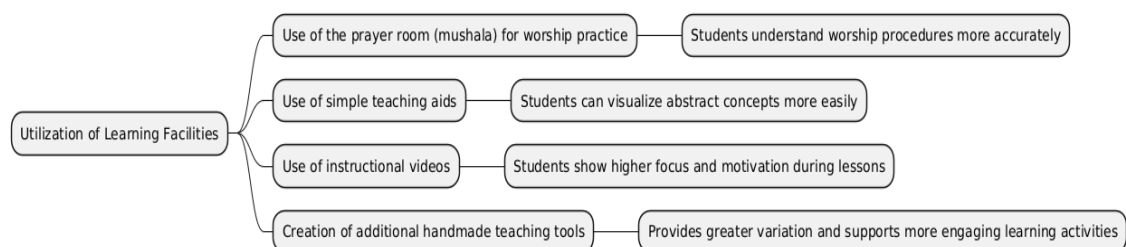


Figure 1. Teachers' Utilization of Learning Facilities in PAI Instruction

Collaboration in the Management of Learning Facilities

This finding highlights the form of collaboration that develops among school residents in the management of Islamic Religious Education (PAI) learning facilities. Collaboration is the active involvement of principals, teachers, committees, and students in ensuring that facilities are available, maintained, and used optimally. In the context of elementary schools with limited facilities, this kind of cooperation is an important strategy to sustain facility use and enhance the effectiveness of the learning process. The principal provides direction through supervision; teachers use the facilities creatively; the school committee provides support for additional procurement; and students play a role in maintaining the cleanliness and neatness of the facilities. The management of facilities thus becomes a collective process that relies on the participation of all school residents.

Collaboration between school residents is consistent in the management of PAI learning facilities. The principal conducts routine supervision to assess the readiness of prayer rooms, props, and classrooms. Teachers make use of available facilities while creating additional teaching aids from simple materials to enrich the variety of learning. The school committee provides support by providing worship supplies and learning aids in stages as needed. Students play a role in maintaining the cleanliness of the prayer room, tidying the props, and ensuring that the facilities are used appropriately during the learning process.

This work pattern demonstrates the integration of the roles of various parties, ensuring that limited facilities do not hinder PAI learning. This condition shows that the success of facility use depends on the joint contributions of all school residents to maintaining and optimizing the facilities. Based on these findings, the form of collaboration of school residents in the management of PAI learning facilities is presented in Table 3.

Table 3. Forms of Collaboration of School Residents in the Management of Learning Facilities

Collaborating Parties	Forms of Collaboration
Principal	Conducting routine supervision of the condition of prayer rooms, props, and classrooms.
	Provide direction on the use of facilities based on PAI learning needs.
	Coordinate the arrangement of learning facilities and spaces.
	Submit recommendations for improving facilities to teachers and committees.
Good Teacher	Identify the means needed for each learning material.
	Develop additional props from simple materials.
	Integrating prayer rooms, posters, prayer cards, and digital media into learning.
School Committee	Check the facilities' readiness before learning starts.
	Providing budget support for the procurement of props and prayer room equipment.
	Help repair damaged facilities.
Student	Plan long-term facility needs with the principal.
	Maintain the prayer room's cleanliness after worship practices.
	Rearrange the props after learning.
	Return the worship equipment to its original place.
	Maintain classroom neatness to ensure facilities are kept clean.

The collaboration of school residents is the main factor in maintaining the sustainability of PAI learning facilities. The synergy among school principals, teachers, committees, and students creates a structured, sustainable management framework. The school committee supports additional facilities. The principal ensures that facilities are used as needed through supervision. Teachers maximize the use of facilities with learning creativity. Students maintain the facility's cleanliness as part of their shared responsibility. This collaboration makes the limitations of facilities overcome through collective performance that supports each other. These findings show that the management of PAI learning facilities depends not only on the availability of facilities but also on the quality of cooperation among school residents, ensuring that facilities function optimally to support the learning process.

Discussion

The study's findings show that improvements in the quality of Islamic Religious Education (PAI) learning are influenced by the effectiveness of facility supervision and infrastructure, teachers' creativity in utilizing facilities, and school residents' collaboration in maintaining the sustainability of facility use. Routine supervision of the principal directs teachers to use prayer rooms, worship props, and simple digital media optimally. On several occasions, teachers were observed preparing worship posters and simple devices before classes began, indicating that the supervision directives were actually implemented. Teachers' creativity is also evident in the creation of additional teaching aids to address the limitations of the facilities. Collaboration among principals, teachers, school committees, and students creates an integrated work pattern that enables limited facilities to function optimally. The use of direct facilities in worship practices increases students' understanding and provides a more contextual learning experience. These findings show that effective facility management depends not only on the availability of facilities but also on their maintenance, supervision, and integration into learning strategies. This research emphasizes the role of supervision and collaboration as the foundation for improving the quality of PAI learning.

These findings also enrich the literature on infrastructure management and PAI learning. Supervision not only serves as a supervisory mechanism but also as a process for increasing teachers' capacity to utilize facilities. This view aligns with Wolde (2021), who emphasizes the importance of continuous guidance in improving teaching quality. However, this study makes a distinct contribution by showing that adequate supervision requires the use of facilities aligned with worship practices. This aspect has not been highlighted much in previous studies. The findings also expand on the results of the study by Brown et al. (2024) by presenting evidence that the collective involvement of school residents can overcome the facility's physical limitations. From the perspective of researchers, this kind of collaboration shows that limited facilities are not the main obstacle but rather a trigger for the emergence of more adaptive innovations.

This research makes a relevant contribution to the development of Islamic education management. The management of learning facilities is understood to be inseparable from supervision, collaboration, and pedagogical creativity. In the context of Islamic education, religious facilities, such as prayer rooms, serve not only as places of worship but also as learning spaces that support the formation of students' religious character. The role of the school committee as an external stakeholder is also significant, especially in maintaining the sustainability of PAI learning facilities. These findings reinforce the participatory management literature, which highlights the importance of

school and community networks. In addition, this research shows that collaboration in Islamic education should be understood as a real operational practice. Principal supervision that affects teacher creativity offers a new perspective on how facility management can be developed adaptively in schools with limited resources.

Overall, the study's results confirm that the effectiveness of facility supervision determines the quality of PAI learning, teachers' pedagogical creativity, and the collaboration of school residents in maintaining the sustainability of learning facilities. These findings make a theoretical contribution to the management of Islamic education by broadening the understanding of the strategic role of religious facilities in practice-based learning. This study also enriches the literature on educational supervision by showing that impactful supervision is not only about control but also about direction and mentoring. The collaboration of school residents not only strengthens facility management but also fosters a participatory, quality-oriented school culture. From a practical standpoint, the cooperative strategy enables schools to continue providing meaningful learning experiences despite limited resources. Thus, this study provides an overview of an adaptive and relevant facility management model for elementary schools facing similar conditions.

CONCLUSION

This study found that transformative Leadership practiced within DEMA UNIDA Gontor has a vital role in shaping an organizational culture that is adaptive, participatory, and oriented towards character development. In contrast to the conventional view that separates Leadership from the formation of self-discipline, this study's findings show that vision, motivation, example, and providing space for members' growth go hand in hand with systematic self-discipline practices. The integration of the direction of the leader's vision, emotional closeness, the drive to think critically, and attention to individual development creates an inclusive organizational environment conducive to strengthening student Leadership capacity. These findings open up a new discussion space on how value-based transformative Leadership models can be effectively applied in pesantren-based student organizations.

This research corroborates previous studies that emphasize the importance of adaptive and collaborative Leadership but makes a new contribution by framing self-discipline as an integral part of student Leadership effectiveness. The limitations of this study include the small number of informants and the focus on a single institution, which limit the generalizability of the findings. Further research is suggested, involving more student organizations from various Islamic boarding schools or colleges to test the model's consistency across different contexts. Future studies also need to explore further how the integration of Islamic values, discipline, and transformative Leadership can shape a more comprehensive student Leadership model and be ready to face the challenges of the digital age.

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