

Implementation of Educational Facilities and Infrastructure Standards in Public Islamic Junior High Schools: A Case Study

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Abstract. Educational facilities and infrastructure play a vital role in supporting learning and improving educational quality. Although the government has established standards, their implementation in schools still faces challenges related to the availability, adequacy, and utilization of facilities. This study aims to analyze the implementation of educational facilities and infrastructure standards at MTs Negeri 1 Magelang and their contribution to learning quality. A descriptive qualitative approach was employed, involving the principal, vice principal for facilities and infrastructure, teachers, and educational support staff. Data were collected through observations, interviews, and documentation, and analyzed using data reduction, data display, and conclusion drawing. The findings reveal that most facilities and infrastructure comply with the standards stipulated in Ministry of Education Regulation No. 24 of 2007, including classrooms, science laboratories, libraries, health rooms, places of worship, administrative offices, and sports facilities. These facilities contribute to a comfortable learning environment, effective practical activities, and a conducive educational atmosphere. However, improvements are still needed in updating practical equipment, enhancing arts facilities, and increasing maintenance funding to sustain the quality of educational services.

Keywords: Implementation Analysis, Educational Facilities and Infrastructure, Madrasah Tsanawiyah

Abstrak. Sarana dan prasarana pendidikan merupakan faktor penting dalam mendukung proses pembelajaran dan peningkatan mutu pendidikan. Meskipun pemerintah telah menetapkan standar sarana dan prasarana, implementasinya di setiap satuan pendidikan masih menghadapi berbagai kendala, terutama terkait ketersediaan, kelayakan, dan pemanfaatan fasilitas. Kondisi tersebut dapat memengaruhi efektivitas pembelajaran sehingga diperlukan kajian mengenai implementasi standar sarana dan prasarana di sekolah. Penelitian ini bertujuan menganalisis implementasi standar sarana dan prasarana di MTs Negeri 1 Magelang serta kontribusinya terhadap mutu pembelajaran. Penelitian menggunakan pendekatan kualitatif deskriptif dengan subjek kepala madrasah, wakil kepala bidang sarana prasarana, guru, dan tenaga kependidikan. Data dikumpulkan melalui observasi, wawancara, dan dokumentasi, kemudian dianalisis dengan reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa sebagian besar sarana dan prasarana telah memenuhi standar Permendiknas Nomor 24 Tahun 2007, seperti ruang kelas, laboratorium IPA, perpustakaan, ruang kesehatan, tempat ibadah, kantor administrasi, dan fasilitas olahraga. Implementasi standar tersebut mendukung kenyamanan belajar, kegiatan praktikum, dan lingkungan yang kondusif. Namun, masih diperlukan peremajaan alat praktik, peningkatan fasilitas seni, serta penguatan anggaran pemeliharaan agar mutu layanan pendidikan dapat terus ditingkatkan.

Kata kunci: Analisis Implementasi, Sarana dan Prasarana Pendidikan, Madrasah Tsanawiyah

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INTRODUCTION

Educational facilities and infrastructure are fundamental elements in delivering high-quality education. Physical facilities not only support the learning process but also help create a safe, comfortable, and stimulating learning environment for students' academic activities. Contemporary research shows that the availability of adequate facilities is strongly correlated with learning engagement, academic achievement, and the effectiveness of classroom learning management (Suyono, Ade Nur Triyani, Camelia, 2022). At the junior secondary education level, the presence of proper classrooms, adequate laboratories, a representative library, worship facilities, play areas, and a health room is an essential part of the requirements of the National Education Standards (SNP) that every educational institution must fulfill. Meeting standardized facilities and infrastructure not only affects the quality of learning but also serves as an indicator of a school's credibility in the eyes of the community (Samsu & Mahmud, 2025).

Although the government has established minimum standards through Ministerial Regulation (Permendiknas) No. 24 of 2007 concerning Facilities and Infrastructure Standards for Junior High Schools (SMP) and Islamic Junior High Schools (MTs), various reports indicate that their implementation has not been optimal across Indonesia. Regional disparities, budget limitations, weak facilities planning, and the lack of a sustainable maintenance system are common issues that hinder efforts to meet these standards. In religious based educational institutions such as madrasahs, these challenges are often intensified by the need for specific religious facilities, limited budget allocations, and infrastructure development that does not always align with the growth in student numbers (Rochman, 2019). herefore, the existence of madrasahs that are able to consistently meet facilities and infrastructure standards becomes important to examine as examples of implementation that can be replicated or further evaluated.

From an educational management perspective, facilities and infrastructure are not merely physical assets but strategic resources that require systematic management. Educational facilities and infrastructure management encompasses a series of activities including planning, procurement, inventory control, utilization, maintenance, and evaluation to ensure that educational resources effectively support institutional goals. Effective management enables schools to optimize the use of available resources, maintain facility quality, and ensure sustainability in supporting teaching and learning activities (Barnawi & Arifin, 2012; Bafadal, 2014). The importance of facilities and infrastructure is closely related to the concept of educational quality. Educational quality refers to the extent to which educational inputs, processes, and outcomes meet established standards and stakeholder expectations. Within the framework of educational quality management, facilities and infrastructure constitute essential inputs that influence the effectiveness of learning processes, teacher performance, student engagement, and academic achievement. Therefore, the adequacy and proper management of educational facilities are considered important determinants of educational quality (Sallis, 2015; Mulyasa, 2018).

In this study, the implementation of educational facilities and infrastructure standards is examined based on Permendiknas No. 24 of 2007 concerning Facilities and Infrastructure Standards for Junior High Schools and Islamic Junior High Schools. The analysis focuses on the availability and adequacy of key facilities, including classrooms, libraries, laboratories, administrative rooms, worship facilities, sanitation facilities, sports areas, and other supporting infrastructure. Furthermore, the study evaluates management aspects such as planning, procurement, utilization, maintenance, and monitoring of facilities and infrastructure to assess the extent of compliance with national standards and their contribution to improving educational quality. Previous studies have confirmed that educational facilities and infrastructure play a significant role in supporting learning effectiveness. (Aida Fitri, Haazimah Ulfah, Suci Aswita, 2024) show that adequate learning facilities enhance learning interaction and assist teachers in managing active learning methods. (Suci Nopida et al., 2024) also found that the quality of facilities can minimize learning barriers and influence

students' psychological comfort during the learning process. However, most previous studies have focused only on the general aspects of facilities provision without integrating an implementation analysis based on national standards, particularly Permendiknas No. 24/2007. In addition, research that examines in detail the mechanisms of management, maintenance, utilization, and the obstacles faced by educational institutions in implementing facility standards remains relatively limited. These research limitations create a gap that needs to be addressed through an in-depth study of a single educational institution as a case study (Fitriani et al., 2022).

The novelty of this study lies in its comprehensive analysis of the implementation of standards for educational facilities and infrastructure based on Ministry of Education Regulation No. 24 of 2007 in the context of madrasah tsanawiyah. Unlike previous studies that primarily focused on the availability and adequacy of facilities, this study examines the implementation process across various dimensions, including the planning, procurement, utilization, maintenance, and evaluation of educational facilities and infrastructure. Furthermore, this study explores how the implementation of these standards contributes to improving the quality of learning and identifies the challenges encountered in practice. Using an in-depth case study approach at MTs Negeri 1 Magelang, this study provides empirical evidence that enriches our understanding of the management of facilities and infrastructure in madrasah education and offers practical recommendations for improving compliance with national education standards.

MTs Negeri 1 Magelang was selected as the research site because it possesses characteristics relevant to studying the implementation of educational facilities and infrastructure standards. Based on accreditation data, MTs Negeri 1 Magelang received an A accreditation rating with an accreditation score of 93 and a Facilities and Infrastructure Standard achievement score of 94, indicating that this madrasah has facilities and infrastructure of good quality according to national assessment indicators. In addition, this madrasah, which was established in 1978, has a land area of approximately 11,259 m², which supports the conduct of various learning activities and the development of educational facilities. Although the achievement in facilities and infrastructure standards is relatively high, the accreditation data does not fully illustrate how these standards are implemented in daily practice, particularly regarding the processes of management, utilization, and maintenance, as well as the challenges faced in complying with the provisions of Ministry of Education Regulation No. 24 of 2007. Therefore, this study is important to gain a deeper understanding of the implementation of educational facilities and infrastructure standards at MTs Negeri 1 Magelang and their contribution to improving the quality of learning.

Thus, this study holds both academic and practical urgency: theoretically, it enriches the literature on the implementation of facility standards in madrasah settings; practically, the findings can serve as evaluation material and recommendations for the madrasah, the Ministry of Religious Affairs, and other stakeholders in improving the quality of educational services. Based on this background, this study aims to analyze the implementation of educational facilities and infrastructure standards at MTs Negeri 1 Magelang and to assess the contribution of these facilities to the quality of the learning process.

METHOD

This study employed a qualitative descriptive approach with a case study design. The case study design was selected because the research focused on obtaining an in-depth understanding of the implementation of educational facilities and infrastructure standards within a specific institutional context, namely MTs Negeri 1 Magelang. Through this approach, the researcher was able to explore the availability, management, utilization, maintenance, and compliance of educational facilities and infrastructure with the standards stipulated in Permendiknas No. 24 of 2007. The case study design also enabled a comprehensive examination of the supporting and

inhibiting factors influencing the implementation of facilities and infrastructure standards in the madrasah environment (Sugiyono, 2013).

The study was conducted at MTs Negeri 1 Magelang, a state Islamic junior secondary school selected because of its accreditation status, relatively complete educational facilities, and its role as a representative madrasah implementing national education standards. Informants were selected using purposive sampling based on their involvement in the planning, management, utilization, and evaluation of educational facilities and infrastructure. The research involved eight informants consisting of one principal, one vice principal responsible for facilities and infrastructure, two teachers, two educational staff members, and two students. These informants were chosen because they possessed relevant knowledge and direct experience regarding the implementation and utilization of educational facilities and infrastructure within the madrasah.

Data were collected through three main techniques. First, direct observation was conducted on the physical condition of facilities and infrastructure such as classrooms, science laboratories, the library, the health unit (UKS), administrative offices, places of worship, toilets, and sports areas. The observations aimed to record their feasibility, completeness, and utilization in the learning process. Second, in-depth interviews were conducted with key informants to obtain information regarding policies, management, challenges, and maintenance strategies for facilities and infrastructure at the madrasah. Third, documentation studies were carried out to examine facility inventory data, planning documents, maintenance reports, and internal records related to the management of educational facilities

The collected data were analyzed using the Miles and Huberman model, which consists of three stages:

1. Data reduction, namely selecting and organizing relevant information related to the implementation of facility standards;
2. Data display, in the form of systematic descriptions of facility conditions, management processes, and findings from observations and interviews;
3. Conclusion drawing, conducted gradually to produce valid findings consistent with the objectives of the research.

To ensure data validity, the researcher applied source and technique triangulation by comparing data obtained from observations, interviews, and documentation so that the results are credible and accountable. This research method enables sharp and in-depth analysis of the implementation of educational facility and infrastructure standards, allowing the findings to provide an accurate empirical description of the condition of facilities at MTs Negeri 1 Magelang.

RESULTS AND DISCUSSION

Fulfillment of Facility and Infrastructure Standards at MTs Negeri 1 Magelang

MTs Negeri 1 Magelang is a state Islamic junior secondary school located in Magelang City, Central Java. The madrasah occupies an area of approximately 11,259 m² and holds an Accreditation A rating with a score of 93. The institution serves a relatively large number of students and is supported by various educational facilities, including classrooms, laboratories, a library, administrative offices, a mosque, sports facilities, and supporting infrastructure. As a state madrasah, MTs Negeri 1 Magelang is expected to implement the National Education Standards, including the facilities and infrastructure standards stipulated in Permendiknas No. 24 of 2007 (Menteri Pendidikan Nasional, 2007).

a. Learning Materials

The findings indicate that MTs Negeri 1 Magelang has provided main textbooks, teacher's guidebooks, and enrichment books for all subjects. This aligns with the provisions of Ministerial Regulation (Permendiknas) No. 24 of 2007, which requires educational institutions to provide core

and supplementary learning materials in accordance with the curriculum. However, the number of enrichment books remains limited compared to the collection of compulsory textbooks.

b. Learning Tools

The findings show that MTs Negeri 1 Magelang has sufficiently complete and well functioning learning tools. The science laboratory is equipped with microscopes, measuring cylinders, test tubes, and anatomical models, all of which are neatly arranged and actively used in practicum activities. In Physical Education subjects, the school provides volleyball, badminton, and mini football courts along with necessary equipment such as balls, nets, and rackets, ensuring that sports activities and PJOK learning run optimally. In the arts and skills area, the madrasah has traditional musical instruments and basic craft materials, although some instruments have begun to show wear and require replacement.

c. Classroom Equipment

Based on the findings, all classrooms at MTs Negeri 1 Magelang have met these requirements. Basic equipment is available in good condition, neatly arranged, and comfortable for both students and teachers. The layout of desks and chairs is proportional, allowing teachers to move freely while managing the class. Additionally, ventilation functions well, and natural lighting is sufficient, making the rooms bright and not stuffy.

d. School Land

The results of the study show that MTs Negeri 1 Magelang has an area of 11,259 m², far exceeding the minimum requirements for junior high school/MTs level educational units. The land is functionally divided into classrooms, science laboratories, administrative rooms, a mosque, a library, a school garden, a sports field, and a parking area. The proportional zoning between learning spaces, student activity areas, and green spaces shows that the madrasah applies effective space management principles. This is in line with the principle of educational space requirements, namely the separation of academic, administrative, and recreational areas to maximize learning comfort (*Rasio Luasan Lahan Pendirian Satuan Pendidikan Terhadap Jumlah Peserta Didik Pada Satuan Pendidikan | Hukum Positif Indonesia*, n.d.).

Topographically, the madrasah land is located on stable terrain, free from the potential for flooding or landslides, and supported by a good drainage system. These conditions meet the aspects of safety and environmental suitability for schools as recommended in national standards. In addition, part of the land is used for volleyball, badminton, ceremonies, and educational green open spaces used for environment-based learning. The utilization of this green space supports contextual learning and the formation of students' ecological awareness, in accordance with the environmental based learning approach.

e. Building

The buildings at MTs Negeri 1 Magelang are generally new buildings with sturdy reinforced concrete construction that meet safety standards in accordance with Permendiknas Number 24 of 2007 (Menteri Pendidikan Nasional, 2007). The school has provided evacuation routes and fire extinguishers at key points, although it is not yet equipped with a fire alarm system. From a health perspective, all classrooms have good ventilation and natural lighting, supported by an effective sanitation and drainage system. These conditions create a healthy, non damp, and comfortable space, although the overly bright lighting in some of the upstairs rooms occasionally affects the use of projectors. This finding implies that educational infrastructure quality should be assessed not only in terms of physical condition but also in relation to risk management and student safety.

f. Classrooms

The results of the study show that all classrooms at MTs Negeri 1 Magelang measure 8 × 8 meters (64 m²), which is in accordance with these requirements. The condition of the classrooms is generally good, with permanent walls, ceramic floors, and are easy to clean. Each room is equipped

with tables and chairs for 32 students, a teacher's desk, a whiteboard, a wall clock, and a trash can, with a symmetrical layout that supports student mobility (Asmawati, 2020).

In terms of lighting and ventilation, the classrooms have two to three large windows that allow natural light and fresh air to enter. Fans and additional lights ensure that the room remains cool and bright throughout the day. Classroom cleanliness is maintained through a daily duty system and a Clean Friday program, so that the rooms remain tidy, comfortable, and free from significant damage.

g. Laboratory Room

The results of the study show that the science laboratory at MTs Negeri 1 Magelang is close to this standard and is located on the first floor of the main building, making it easily accessible to teachers and students. The laboratory building is permanent, with adequate ventilation and natural lighting. The laboratory is clean, well organized, and actively used in learning. The available facilities include student lab tables, teacher demonstration tables, equipment and material cabinets, sinks, microscopes, measuring cups, test tubes, pipettes, beaker glasses, and human anatomy models.

This finding was supported by an interview with the Vice Principal for Facilities and Infrastructure:

"Fasilitas laboratorium diperiksa dan dirawat secara rutin. Para guru didorong untuk memanfaatkan laboratorium dalam kegiatan praktikum agar siswa dapat langsung menerapkan konsep-konsep teori yang dipelajari di kelas." (WKS-01)

In terms of comfort, natural ventilation, good lighting, and fans ensure that the room remains cool and bright during practical work. The use of the laboratory is regulated through a rotating schedule so that each class has the opportunity to conduct practical work. Maintenance is carried out regularly by cleaning staff, ensuring that equipment and materials are stored neatly after use.

h. Library Room

The results of the study show that MTs Negeri 1 Magelang has one permanent library room that meets these requirements. The library room is clean, bright, and neatly organized, equipped with bookshelves, circulation tables, storage cabinets, and several reading tables for students. The collection includes textbooks, teacher's guides, enrichment books, and general literature such as encyclopedias and literary works. Teachers and students actively use the library to read and borrow books as additional references. In general, the library at MTs Negeri 1 Magelang has met the infrastructure standards and functions optimally as a learning resource center in the madrasah.

"Para siswa secara rutin memanfaatkan perpustakaan, tidak hanya untuk meminjam buku pelajaran, tetapi juga untuk mengakses bahan bacaan tambahan dan mengerjakan tugas." (LIB-01)

i. Administration Room

The administration room supports school operations, including administrative services, document storage, and teacher coordination. At MTs Negeri 1 Magelang, the administrative office, principal's office, and teachers' room are located close to each other and form an easily accessible administrative area. The room measures approximately 64 m², has permanent walls, ceramic flooring, and good lighting. Facilities such as work desks, filing cabinets, and computers are available and used for administrative activities. All rooms appear clean, tidy, and organized, with some services already running digitally.

j. Health Room

The results of the study show that the UKS at MTs Negeri 1 Magelang has met these requirements. The room is clean, well organized, and actively used, equipped with a patient bed, medicine cabinet, examination table and chairs, fan, and first aid kit containing basic medicines. The UKS is managed by the coordinating teacher and assisted by members of the Youth Red Cross. The

madrasah also collaborates with the North Magelang District Health Center for health check ups and counseling activities.

k. Places of Worship

The results of the study show that MTs Negeri 1 Magelang has a permanent mosque that exceeds the standard size and actively functions as a center for the madrasah community's worship activities. The mosque is easily accessible from all areas of the school, is used every day for congregational prayers and religious activities, and has a sturdy building with good ventilation and ceramic floors. Worship facilities such as prayer mats, mukena (prayer robes), sarongs, Al-Qur'an, digital clocks indicating prayer times, and loudspeakers are available. The wudu area is located at the back with a smooth water flow. The cleanliness of the mosque is maintained through routine maintenance by cleaning staff and students on a scheduled basis. Overall, the worship facilities at this madrasah meet the standards and support the spiritual activities of the students.

l. Canteen

The results of the study show that MTs Negeri 1 Magelang has a cafeteria that exceeds the standard size, is semi permanent, clean, and operates actively every day. The cafeteria is equipped with tables and chairs, food display cases, hand washing facilities, and closed trash bins. The canteen is managed by the madrasah in collaboration with selected food providers. The food sold includes snacks, drinks, and simple dishes such as fried rice and boiled noodles. Canteen operations are supervised by teachers on duty and security officers to ensure food hygiene and safety. The canteen environment is routinely cleaned through daily duty rosters and the Clean Friday program. The madrasah also implements a healthy food policy by prohibiting the sale of instant foods or snacks containing harmful ingredients.

m. Toilets

The results of the study show that MTs Negeri 1 Magelang has an adequate number of toilets, consisting of toilets for male students, female students, and teachers, which are spread across several building blocks. All toilets are equipped with running water, sinks, soap dispensers, and closed trash bins. Toilet cleanliness is maintained through the duties of cleaning staff, student duty rosters, and Clean Friday activities. The drainage system functions well so that there is no standing water or odor. Although there are no separate toilets specifically for people with disabilities, access to the toilets is quite spacious and there are no high steps, so it is still possible for students with special needs to use them.

n. Playground

The results of the study show that MTs Negeri 1 Magelang has a large multifunctional sports field located in the center of the madrasah complex. This field is used for mini soccer, volleyball, badminton, gymnastics, and school ceremonies. The available sports facilities include volleyball nets, badminton nets, various types of balls, and simple fitness equipment. All equipment is stored in the sports warehouse and managed by the PJOK teacher. The use of the field is regulated through a rotating schedule to ensure that each class has the opportunity to exercise optimally.

Management and Maintenance of Facilities and Infrastructure at MTs Negeri 1 Magelang

The findings indicate that the management of educational facilities and infrastructure at MTs Negeri 1 Magelang is systematically coordinated by the Vice Principal for Facilities and Infrastructure (Waka Sarpras). The management process begins with annual planning conducted through coordination meetings involving the principal, vice principals, teachers, administrative staff, and the school committee. During these meetings, each unit identifies its facility needs, evaluates the condition of existing infrastructure, and proposes procurement priorities for the following academic year. Procurement decisions are made by considering the urgency of each need, available financial resources, and compliance with national education standards.

The inventory of educational facilities is managed through a systematic recording process. All school assets are documented in inventory books and updated periodically to ensure accurate records of their quantity, condition, and utilization. Inventory data are used as the basis for procurement planning, maintenance scheduling, and reporting. The school also conducts routine inspections to identify damaged or obsolete equipment requiring repair or replacement. Maintenance activities are carried out continuously through the participation of various members of the school community. Cleaning staff are responsible for maintaining classrooms, laboratories, offices, toilets, and outdoor facilities, while teachers supervise the proper use of learning equipment during instructional activities. Students also participate in maintaining school facilities through daily classroom cleaning duties and the weekly *Clean Friday* program, which focuses on cleaning classrooms, gardens, sports fields, and other public areas within the school environment. These activities help maintain the cleanliness and functionality of school facilities throughout the academic year.

Funding for maintenance and facility improvement is obtained from several sources, including School Operational Assistance (BOS), contributions from the school committee, and community support. Despite these efforts, the findings reveal several challenges. Limited BOS funding restricts the school's capacity to undertake major building renovations, purchase new laboratory equipment, and improve supporting facilities. Some laboratory instruments and arts equipment have deteriorated due to prolonged use and require replacement. In addition, the school has not yet installed a fire alarm system or provided dedicated toilet facilities for persons with disabilities. Supervision and evaluation of facilities and infrastructure are conducted regularly through monthly coordination meetings involving the principal, Waka Sarpras, and administrative staff. Inventory reports, maintenance records, and facility condition reports are reviewed to determine maintenance priorities and procurement decisions. These routine monitoring activities ensure that educational facilities remain functional and continue to support teaching and learning activities effectively.

Discussion

Compliance with Educational Facilities and Infrastructure Standards and Their Contribution to Learning Quality

The findings demonstrate that MTs Negeri 1 Magelang has successfully fulfilled most of the educational facilities and infrastructure standards stipulated in Ministry of Education Regulation No. 24 of 2007. The availability of adequate classrooms, science laboratories, libraries, health facilities, places of worship, administrative offices, sports facilities, and supporting infrastructure indicates that the madrasah has established an educational environment that meets the minimum national standards. This level of compliance reflects the institution's commitment to providing physical resources that support teaching and learning activities.

The fulfillment of educational facilities and infrastructure standards extends beyond regulatory compliance. Adequate facilities create learning environments that promote students' comfort, participation, and engagement throughout the instructional process. The availability of well-maintained classrooms, practical laboratories, learning resources, and supporting facilities enables teachers to implement diverse learning strategies and facilitates students' active involvement in classroom and practical activities. Consequently, educational facilities become strategic resources that contribute to improving learning quality rather than merely serving as administrative requirements.

These findings support the theory proposed by Ananda and Hanurea (2017), who argue that educational facilities and infrastructure should be managed systematically because they function as essential components that enhance the effectiveness and efficiency of educational processes (Ananda & Hanurea, 2017). Similarly, Dafit and Mustika emphasize that the availability of

appropriate educational resources strengthens learning implementation by enabling teachers to organize more meaningful and student-centered instruction. From this perspective, compliance with infrastructure standards should be interpreted not only as the provision of physical assets but also as an investment in creating an effective learning environment (Dafit & Mustika, 2021).

The results are also consistent with previous empirical studies. Fitriani reported that adequate educational facilities positively influence learning quality by improving students' access to learning resources and supporting instructional activities study (Fitriani et al., 2022). Likewise, Suci Nopida found that classroom conditions, including adequate ventilation, lighting, and learning facilities, significantly contribute to students' concentration, participation, and academic performance. The findings of the present study reinforce these conclusions by demonstrating that compliance with national facility standards supports both instructional effectiveness and the overall quality of educational services (Suci Nopida et al., 2024).

Despite the generally positive findings, several components still require improvement, including the replacement of aging laboratory equipment, enhancement of arts facilities, installation of additional safety systems, and improvement of accessibility for students with disabilities. These findings indicate that compliance with national standards should be viewed as a continuous quality improvement process rather than a one-time achievement. Sustainable investment, periodic evaluation, and continuous maintenance are therefore essential to ensure that educational facilities remain responsive to evolving learning needs.

This study contributes to the existing literature by demonstrating that the successful implementation of educational facilities and infrastructure standards depends not only on the availability of physical resources but also on their functionality, utilization, and sustainability. Therefore, educational quality is influenced not merely by the quantity of facilities provided but by how effectively these resources are managed to support meaningful learning experiences.

Educational Facilities as Learning Resources for Effective Learning

The findings demonstrate that educational facilities at MTs Negeri 1 Magelang function not merely as physical assets but as learning resources that directly support instructional effectiveness. The availability of adequate classrooms, science laboratories, libraries, learning materials, and instructional equipment enables teachers to implement diverse teaching strategies and provides students with opportunities to engage actively in the learning process. These facilities create an environment that facilitates both theoretical understanding and practical experience, thereby improving the quality of classroom instruction (Margarida, 2023).

Among the available facilities, classrooms, laboratories, and libraries play complementary roles in supporting student learning. Well-maintained classrooms equipped with appropriate furniture, adequate ventilation, and sufficient lighting provide a comfortable learning environment that encourages student concentration and participation. Meanwhile, the science laboratory enables students to conduct experiments and directly apply scientific concepts through practical activities. The library complements classroom learning by providing access to textbooks, enrichment books, and additional references that encourage independent learning and information literacy. The integration of these facilities demonstrates that effective learning depends not only on teacher competence but also on the availability of appropriate learning resources.

These findings are consistent with the learning resource theory proposed by Margarida, which emphasizes that educational facilities constitute an essential component of the learning system because they support instructional planning, implementation, and evaluation (Obioma, 2023). Similarly, Juwairiah argues that instructional media and learning tools facilitate concept clarification, increase students' motivation, and improve learning outcomes by providing concrete learning experiences. Therefore, educational facilities should be viewed as pedagogical resources rather than merely physical infrastructure (Juwairiah, 2013).

The present findings also corroborate previous empirical studies. Khalid found that adequate educational facilities significantly enhance students' learning experiences by expanding access to learning resources and improving instructional quality (Khalid & Farid, 2025). Likewise, Suci Nopida reported that classroom conditions, including lighting, ventilation, and learning equipment, positively influence students' concentration and classroom participation (Suci Nopida et al., 2024). The active utilization of laboratories and libraries observed in this study further supports previous research indicating that practical learning environments strengthen students' conceptual understanding, scientific literacy, and problem-solving skills.

However, the study also reveals several areas requiring further improvement. The limited number of enrichment books, aging laboratory equipment, and insufficient arts facilities may reduce opportunities for students to develop higher-order thinking skills, creativity, and independent learning habits. These findings suggest that educational quality is influenced not only by the availability of facilities but also by their adequacy, diversity, and continuous renewal. Consequently, schools should prioritize the modernization of learning resources and regularly evaluate their relevance to curriculum development and students' learning needs.

This study highlights that educational facilities contribute to learning quality when they are actively integrated into instructional practice. The effectiveness of classrooms, laboratories, libraries, and instructional media depends on how teachers utilize them to create interactive, student-centered, and meaningful learning experiences. Thus, educational facilities should be regarded as strategic educational resources that support both academic achievement and students' holistic development.

Participatory Management and Sustainability of Educational Facilities

The findings indicate that the effective implementation of educational facilities and infrastructure standards at MTs Negeri 1 Magelang is supported not only by the availability of physical resources but also by a systematic and participatory management process. Planning, procurement, inventory management, maintenance, and supervision are carried out through coordinated efforts involving the principal, the Vice Principal for Facilities and Infrastructure (Waka Sarpras), teachers, administrative staff, students, and the school committee. This collaborative approach ensures that facilities remain functional, well-maintained, and responsive to the changing needs of teaching and learning.

The active involvement of multiple stakeholders demonstrates that educational facilities management extends beyond administrative responsibilities. The participation of teachers in identifying facility needs, students in maintaining school cleanliness through the *Clean Friday* program, and the school committee in supporting maintenance and procurement reflects a shared commitment to sustaining educational resources. Such collaboration strengthens institutional responsibility and encourages a sense of ownership among school members, thereby improving the long-term sustainability of school facilities.

These findings support the educational facilities management theory proposed by (Khofi & Adimah, 2024), which emphasizes that facilities management should encompass integrated processes of planning, procurement, utilization, maintenance, inventory, and evaluation. Similarly, Barnawi and Arifin argue that effective facilities management depends on continuous coordination among stakeholders to ensure that educational resources remain available and functional activities (Barnawi & Arifin, 2012; Bafadal, 2014). The management practices observed at MTs Negeri 1 Magelang demonstrate the practical application of these principles by integrating administrative procedures with active community participation.

The present findings are also consistent with previous studies reporting that participatory management improves the effectiveness of educational facilities. Previous research has shown that schools involving teachers, administrative staff, and school committees in facilities management

tend to maintain educational resources more effectively and utilize them more efficiently to support learning. The current study extends these findings by highlighting the contribution of students as active participants in routine maintenance activities, indicating that sustainability is strengthened when all members of the school community share responsibility for preserving educational facilities.

Despite these positive practices, sustainable facilities management remains dependent on institutional commitment and continuous collaboration. Regular maintenance, transparent inventory systems, stakeholder participation, and periodic evaluation are essential to ensuring that educational facilities continue to support instructional activities effectively. Therefore, the sustainability of educational infrastructure should be viewed as a continuous management process rather than solely as the provision of physical facilities. This study contributes to the literature by demonstrating that participatory management constitutes a key factor in sustaining educational facilities and infrastructure. Rather than relying exclusively on financial resources or administrative procedures, effective facilities management is achieved through collaborative governance that integrates leadership, stakeholder participation, and continuous monitoring. This finding reinforces the importance of participatory management as a strategic approach to maintaining educational quality and ensuring the long-term utilization of school facilities.

CONCLUSION

This study found that the implementation of educational facilities and infrastructure standards at MTs Negeri 1 Magelang generally complies with the requirements stipulated in Permendiknas No. 24 of 2007. Most educational facilities and infrastructure, including classrooms, laboratories, libraries, health facilities, worship facilities, and sports areas, are available, functional, and support the learning process effectively. The findings further indicate that successful implementation is influenced not only by the availability of facilities but also by systematic management practices, including planning, procurement, utilization, maintenance, and supervision. Strong leadership commitment, stakeholder participation, and routine maintenance were identified as key supporting factors, while limited funding and the need for facility modernization remain significant challenges.

This study contributes to the literature by providing empirical evidence on the implementation of educational facilities and infrastructure standards in the madrasah context and by proposing a participatory management approach that emphasizes collaboration among school leaders, teachers, students, administrative staff, and the school committee. Strategically, educational institutions should strengthen sustainable maintenance programs, improve accessibility and safety features, modernize learning facilities, and optimize stakeholder involvement to ensure the long-term sustainability of educational facilities and the continuous improvement of educational quality.

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