Article

EVALUATION OF EDUCATIONAL FACILITIES AND INFRASTRUCTURE MANAGEMENT PROGRAM IN IMPROVING THE QUALITY OF EDUCATION

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ABSTRACT

Facilities and infrastructure are crucial in supporting the smooth learning process. The teaching and learning process can run effectively with adequate facilities and infrastructure. This study aims to analyze and evaluate the management of educational facilities and infrastructure to improve the quality of education. This research uses a qualitative approach with an evaluation method through the discrepancy model. The study was conducted at SDIT Daar El Khaer, Tigaraksa, Tangerang, involving 5 research subjects: the principal, the head of facilities and infrastructure, the school committee, students, and parents. Data were collected through observation, interviews, and documentation. The results show that the management of facilities and infrastructure complies with regulations and meets students' needs, although bureaucratic obstacles remain. Facilities and infrastructure that meet government standards account for only 50%-55%. Therefore, schools must focus on managing facilities and infrastructure effectively and streamline bureaucratic processes to meet students' needs according to official standards. This study recommends that the facilities and infrastructure program at SDIT Daar El Khaer be continued while adhering to the latest standards based on Government Regulation No. 57 of 2021 and Minister of Education, Culture, Research, and Technology Regulations No. 22 and 48 of 2023. The implementation must involve all relevant parties, including the school committee. The principal should oversee the implementation of facilities standards by the head of facilities. Schools need to evaluate bureaucratic obstacles, find solutions to improve efficiency, and continuously monitor and enhance their facilities according to regulations to improve educational quality.

Keywords: Management, Facilities and Infrastructure, Education Quality

INTRODUCTION

Education is an essential human need, serving as a pathway for individuals to achieve their

aspirations (Akareem & Hossain, 2012). Schools, as foundational institutions for education, were established to facilitate the teaching and learning process (Akhihiero, 2011). The successful implementation of learning in schools is supported by four key components: curriculum, teachers, students, and facilities and infrastructure. The quality of education in a school is directly correlated with how effectively these components are utilized. Schools receive accreditation ratings—ranging from good to excellent—based on evaluations by authorized bodies such as the Indonesian National Accreditation Board. If these components fail to meet the required standards, accreditation is denied. To enhance educational outcomes, institutions are expected to manage resources effectively and continuously improve the quality of education (Lynch et al., 2019).

In the current era of industrial transformation, where adaptability across various sectors is essential, education systems must emphasize quality, particularly in facilities and infrastructure, which are among the most critical elements. This shift is occurring globally, impacting both developed and developing nations. Facilities and infrastructure serve as enablers for the teaching and learning process, influencing educational quality and determining its success (Akhihiero, 2011; Herwan et al., 2018).

The presence of well-maintained facilities and infrastructure significantly contributes to the success of educational activities. Effective management of these resources plays a pivotal role in supporting and enhancing the quality of education (Wagner, 2010). High-quality facilities can improve teacher welfare, enhance student learning outcomes, and contribute positively to the surrounding community. Furthermore, students benefit greatly when they can directly access and utilize these resources, resulting in a more engaging and enjoyable classroom environment (Ngwaru & Oluga, 2015; Vincent, 2012). Thus, well-maintained school facilities become a crucial factor in enhancing a school's appeal to the community (Alkadri et al., 2018).

Facilities and infrastructure not only create a positive learning environment but also influence school performance. Key aspects, such as location, furniture, and equipment, significantly contribute to educational quality (Ayeni & Adelabu, 2011). Investment in these areas positively impacts the performance of students and staff. Optimizing the use of school facilities can lead to better academic achievements and overall school performance (Green & Turrell, 2005).

Educational facilities encompass tools and equipment used in teaching and learning activities, including classrooms, furniture, and learning aids. Meanwhile, infrastructure refers to complementary elements that indirectly support these activities, such as access roads, school grounds, and gardens. Adequate facilities and infrastructure enrich learning experiences, facilitate curriculum implementation, and improve educational outcomes (Sulasteri et al., 2021; Souck & Nji, 2017). Poor facilities, however, can hinder classroom activities and even pose risks to students (Ugwulashi, 2017).

The management of school facilities and the physical learning environment includes essential aspects such as water, sanitation, classrooms, libraries, and laboratories. These factors not only support learning but also influence the public perception and credibility of educational institutions (Marmoah et al., 2019). Teachers require adequate learning resources to fulfill their roles effectively. Schools with more comprehensive facilities can better support educators, enhancing the overall learning experience.

Challenges in optimizing facilities often stem from outdated resources, highlighting the need for professional management. School members must prioritize the readiness and maintenance of educational facilities to ensure smooth teaching and learning activities (Siregar & Aziza, 2021). Proper design and maintenance can significantly improve productivity, with the primary goal being to keep resources in optimal condition through cost-effective methods (Ershadi & Shemirani, 2020). Regular maintenance ensures that facilities remain functional and continue to support educational processes (Kuuskorpi & Gonzalez, 2011). For instance, the efficiency of vocational school tools improved from 60% to 87% after optimization, demonstrating the substantial impact of effective management (Tazkia & Suherman, 2016).

Enhancing educational facilities is a central component of the United Nations' Sustainable Development Goal 4a.1 (SDG 4a.1), which seeks to increase the proportion of schools with access to:

(a) electricity; (b) internet for educational purposes; (c) computers for teaching and learning; (d) infrastructure and resources for students with disabilities; (e) safe drinking water; (f) gender-separated basic sanitation facilities; and (g) basic handwashing facilities, as outlined by the WASH indicator definitions (Petilo, 2024; PSA, 2023). Educational institutions play a crucial role in creating an optimal environment that supports effective learning and teaching. This requires adaptability to evolving instructional practices and organizational structures, while addressing the dynamic, interconnected, and community-focused aspects of modern education. Facilities are essential for schools, functioning both as enablers of performance and as foundational elements that sustain the educational institution.

Several factors influence learning outcomes, which can be categorized into internal and external factors (Bandono & Samino, 2015; Hamalik, 2011; Mahmud, 2001; Slameto, 2010; Syah, 2013; Ruhyana & Aeni, 2019). Among the external factors are educational facilities and infrastructure. Educational facilities refer to resources that directly support the learning process, such as classrooms, books, libraries, and laboratories. On the other hand, educational infrastructure comprises elements that indirectly aid education, such as school gardens and playgrounds (Burhanuddin, 2005; Mulyasa, 2011). While facilities and infrastructure significantly impact learning success, data from the Education Data Centre (Dapodik – Data Pokok Pendidikan) for the 2017/2018 academic year (Kemendikbud, 2017a) revealed a high level of damage to educational facilities, particularly classrooms, alongside suboptimal student learning outcomes, as reflected in the high rate of grade repetition. These challenges persist in many areas, underscoring the need for initiatives to enhance primary school students' learning effectiveness and reduce the psychological burden of grade repetition.

SDIT Daar El-Khaer Tigaraksa, Tangerang is a private educational institution established in 2014 and officially commenced operations in March 2015 under the management of the Daar El-Khaer Foundation. Based on the author's experience as a parent/guardian from 2017 to 2020, the school has met minimum standards, such as adequate classrooms according to educational levels, a functional UKS (school clinic), a library, and fields for ceremonies and sports activities.

However, preliminary research at SDIT Daar El-Khaer Tigaraksa Tangerang shows that as of 2024, the facilities and infrastructure management program still follows the same pattern. Unfortunately, many facilities and infrastructure indicators are either unavailable, damaged, poorly maintained, or not utilized properly, hindering the learning process. According to Fernandez et al. (2023), this situation may result from a lack of systematic approaches to address infrastructure repair needs while considering resource limitations. Suggested solutions include using grouping procedures, multi-criteria utility functions, and optimization components.

Minimum standards for educational facilities and infrastructure are regulated in Government Regulation No. 57 of 2021 and the Minister of Education, Culture, Research, and Technology Regulations No. 22 and 48 of 2023. Mandatory facilities include classrooms, libraries, laboratories, teachers' rooms, administrative offices, places of worship, counseling rooms, school clinics (UKS), restrooms, storage rooms, canteens, and sports areas. However, not all educational institutions are equipped with adequate facilities.

The government and schools continue striving to improve educational facilities to help students achieve their full potential. Limitations in the availability and quality of facilities often pose challenges in delivering education. Schools must prioritize completing and maintaining their facilities to provide optimal support.

To address these issues, an evaluation of the facilities and infrastructure management program at SDIT Daar El-Khaer Tigaraksa Tangerang is necessary. This evaluation aims to assess the implementation of facilities and infrastructure management, identify obstacles encountered during the process, and determine areas that need improvement to enhance the quality of education provided by the school.

METHOD

This study employed an evaluation research design using a qualitative approach, adopting the discrepancy evaluation model to assess and evaluate the implementation of standards for facilities and infrastructure at SDIT Daar El-Khaer Tigaraksa, Tangerang. The discrepancy model utilizes a comparative technique to analyze the gap between existing indicators and their implementation, yielding results in the form of findings or recommendations rather than innovations, with a focus on alignment and appropriateness.

The subjects of this evaluation study include the following:

1. Principal: The principal will be interviewed to clarify the standards for facilities and infrastructure, supported by verification against Government Regulation Number 57 of 2021 on Facilities and Infrastructure, as well as Ministerial Regulations of Education, Culture, Research, and Technology Numbers 22 and 48 of 2023.
2. Head of Facilities and Infrastructure and Educational Staff: Interviews will be conducted to explore the design, implementation, and documentation of facility and infrastructure standards, along with the systematic application of these standards in line with the aforementioned regulations. This includes detailed data on school equipment and service provisions.
3. School Committee: The committee will be interviewed regarding the design, implementation, and completeness of facility and infrastructure standards data.
4. Students and Parents: Surveys and interviews will be conducted to gather data on the completeness and implementation of facility and infrastructure standards as perceived by students and their parents.

This methodological approach ensures a comprehensive evaluation of facilities and infrastructure at the school, covering both regulatory compliance and stakeholder perspectives.

FINDINGS AND DISCUSSION

Penelitian ini menggunakan teknik evaluasi discrepancy untuk melihat dan mengevaluasi penerapan standar sarana dan prasarana di SDIT Daar El-Khaer Tigaraksa, Tangerang. Discrepancy Evaluation Model (model evaluasi kesenjangan) yang dikembangkan oleh Malcolm M. Provus pada tahun 1971; merupakan salah satu model yang dapat dipergunakan untuk mengevaluasi suatu program. Model evaluasi ini menekankan pada pandangan adanya kesenjangan di dalam pelaksanaan program, dimana evaluator mengukur adanya perbedaan antara yang seharusnya dicapai dengan yang sudah riil dicapai di setiap komponen program. Model evaluasi discrepancy terdiri dari empat tahap yaitu tahap desain, instalasi, proses dan produk pembanding. Setelah mendapatkan data dan melakukan verifikasi dan validasi, maka akan terlihat kesesuaian atau terjadi ketimpangan antara program yang telah ditentukan dengan kondisi di lapangan.

Management Design of Facilities and Infrastructure at SDIT Daar Al-Kaher Tigaraksa Tangerang

Based on the results of interviews at the verified design stage related to the evaluation of educational facilities and infrastructure management at SDIT Daar El-Khaer Tigaraksa Tangerang with the discrepancy evaluation model, the author found that the process of determining facility and infrastructure standards was carried out in a limited meeting with the teacher council without involving the committee. In addition, the legal basis still uses the same standard, not following the latest legal standards for facilities and infrastructure, namely the regulation of the Minister of Education and Culture, Research and Technology Number 22 and 48 of 2023 (Interview results, December 2, 2023).

At this design stage, the author evaluates that there is a discrepancy in determining the design of educational facilities and infrastructure standards at SDIT Daar El-Khaer. Therefore, based on the

consistency value and paying attention to the correlation value to the determination of educational facilities and infrastructure standards, the author analyzes pragmatic values so that they can be applied in the real world, as a follow-up to the evaluation of the determination of educational facilities and infrastructure standard designs, namely as follows:

a. In the process of determining the standards of facilities and infrastructure at SDIT Daar El-Khaer, the school committee should be involved as one of the stakeholders in determining policies and programs in the school.
b. Changing the legal basis used with the latest legal standards for facilities and infrastructure, namely the regulation of the Minister of Education and Culture, Research and Technology Number 22 and 48 of 2023.
c. Providing socialization to all stakeholders regarding the latest legal basis used as the standard for facilities and infrastructure and the purpose of using the legal basis.

Installation of Facilities and Infrastructure Management at SDIT Daar Al-Kaher Tigaraksa Tangerang

Based on the results of the interview at the installation stage that has been verified regarding the evaluation of educational facilities and infrastructure management at SDIT Daar El-Khaer Tigaraksa Tangerang with the discrepancy evaluation model, the author found that periodic monitoring of the process of implementing facility and infrastructure standards was only carried out by the head of the division without involving other parties. The principal only received reports from the head of the facilities and infrastructure division. The standards of facilities and infrastructure are not in accordance with the needs of teaching and learning activities at SDIT Daar El-Khaer. In fact, some facilities and infrastructure are not yet available at SDIT Daar Daar El-Khaer, such as the absence of a computer lab, a ceremonial field that is not large enough, and facilities for the disabled that have not been fulfilled (Interview results, December 2, 2023).

Based on the meaning of the research stated above and the author's attention to the standards for managing educational facilities and infrastructure, at this installation stage the author evaluates that there is a discrepancy in the implementation of the standards for educational facilities and infrastructure at SDIT Daar El-Khaer. Therefore, based on the consistency value and considering the correlation value towards the determination of educational facilities and infrastructure standards, the author analyzes pragmatic values so that they can be applied in the real world, as a follow-up to the evaluation of the implementation of educational facilities and infrastructure standards, namely as follows:

a. Periodic monitoring of the implementation of educational facilities and infrastructure standards is carried out not only by the head of the division but also involving the principal.
b. There needs to be a lot of improvement to the facilities and infrastructure at SDIT Daar El-Khaer to support the teaching and learning process at the school.
c. There needs to be fulfillment of the need for adequate facilities and infrastructure according to government regulation standards and the provision of facilities and infrastructure for the disabled.

Facilities and Infrastructure Management Process at SDIT Daar Al-Kaher Tigaraksa Tangerang

Based on the results of interviews at the verified process stage related to the evaluation of educational facilities and infrastructure management at SDIT Daar El-Khaer Tigaraksa Tangerang with the discrepancy evaluation model, the author found that the results of interviews with the head of the facilities and infrastructure division and educators were that reports on the need for facilities and infrastructure were carried out per semester in stages starting from teachers to the head of the division and then reported to the principal. The needs reported by educators per semester to the head of the facilities and infrastructure division such as laptops, teaching tools, and cleaning tools (classroom needs). Not all of the recorded needs reports could be met due to bureaucracy and the priority of primary

needs (Interview results, December 2, 2023).

In the process of procuring facilities and infrastructure carried out by the head of the facilities and infrastructure division, educators did not know and only used them. The committee was also not involved in submitting facilities and infrastructure or in procuring goods. Procurement of facilities and infrastructure should be done by submitting a Budget Plan (RAB) by the teachers and then approved by the principal. Procurement of facilities and infrastructure can support the quality of learning because if the school facilities and infrastructure are adequate, the learning process will run well and an effective and efficient learning process will be created. (Fathurrochman, 2021).

Based on the meaning of the research stated above and the author paying attention to the standards for managing educational facilities and infrastructure, at this process stage the author evaluates that there is a discrepancy in the completeness of the standards for educational facilities and infrastructure at SDIT Daar El-Khaer. Therefore, based on the consistency value and paying attention to the correlation value to the completeness of the standards for educational facilities and infrastructure, the author analyzes pragmatic values so that they can be applied in the real world, as a follow-up to the evaluation of the process stage of the standards for educational facilities and infrastructure, namely as follows:

a. In the process of submitting needs and procuring facilities and infrastructure at SDIT Daar El-Khaer, the school committee and educators should be involved as one of the stakeholders in determining policies and programs in the school.
b. Adjustment of the number of facilities and infrastructure with the needs that have been submitted so that the learning process can run smoothly because it is well facilitated and proper.
c. Simplification of bureaucracy to make it easier to submit needs and procure facilities and infrastructure at SDIT Daar El-Khaer.
d. Procurement of facilities and infrastructure is a top priority in the school program in order to improve the quality of education and the comfort of teaching and learning (Hanifa, 2022)

Comparative Products of the Implementation of Facilities and Infrastructure Management at SDIT Daar Al-Kaher Tigaraksa Tangerang

Based on the results of the checklist carried out by educators, school committees, parents/guardians of students, and students in grades 5 and 6 at SDIT Daar El-Khaer at the comparative product stage that has been verified related to the evaluation of educational facilities and infrastructure management with the discrepancy evaluation model, the author found that there is a discrepancy between the standards of facilities and infrastructure and their implementation at SDIT Daar El-Khaer. The results of the study showed that the percentage of non-compliance of facilities was 44% to 50% and the percentage of non-compliance of infrastructure was 42% to 50%. Meanwhile, the conformity of facilities to their implementation was 50% to 56% and educational infrastructure was 48% to 56%. This proves that most of the facilities and infrastructure at SDIT Daar El-Khaer do not comply with the legal standards set by the government. Learning facilities are absolute media that can support learning interests, the lack or absence of learning facilities directly has created conditions for children to be lazy to learn.

The components of educational facilities in this study include computers / laptops, infocus / projectors, whiteboards, student benches and tables, teacher benches and tables, textbooks, musical instruments / crafts, sports equipment, demonstration equipment, electricity, and wifi networks. While the infrastructure components include school land, school-owned buildings, rooms consisting of classrooms, library rooms, laboratory rooms, principal's rooms, teachers' rooms, administration rooms, health rooms, worship rooms, sports fields, canteens, toilets, and halls / specific rooms (Mufadal, 2003).

The suitability of facilities and infrastructure is based on the Regulation of the Minister of Education and Culture, Research and Technology No. 22 and 48 of 2023 concerning Standards for

Facilities and Infrastructure for Early Childhood Education, Elementary Education Levels, and Secondary Education Levels, Article 1 paragraph 1 states that the standards of facilities and infrastructure are the minimum criteria for facilities and infrastructure that must be available in educational units in organizing education. And the Regulation of the Minister of Education, Culture, Research, and Technology Number 48 of 2023 concerning Appropriate Accommodation for Students with Disabilities in Formal Early Childhood Units, Elementary Education, Secondary Education, and Higher Education (Permendikbudristek, 2023)

The implementation of facilities that are not in accordance with the government's standard legal references that occurred at SDIT Daar El-Khaer includes the incompatibility of facilities with the needs of certain paths, levels, and types of education, not paying attention to the need for adequate accommodation for students with disabilities. As with the fulfillment of educational needs in general, the fulfillment of educational rights for people with disabilities also has various obstacles/barriers, both in terms of regulations, inadequate budget allocation, school infrastructure, teaching staff resources and also in terms of the families of people with disabilities themselves. (Lestari, Sumarto and Isdaryanto, 2017)

Meanwhile, the inconsistency of infrastructure at SDIT Daar El-Khaer with the established legal standards is that the land area cannot accommodate educational facilities and infrastructure considering the projected number of students and study groups, does not yet have green open space to support the learning process and ecological functions, there is no security in the form of hazard warnings, evacuation routes and access that can be easily reached and equipped with clear directions, there is no accessibility including facilities for people with disabilities, several rooms also do not meet the standards, namely the library and laboratory rooms. There is no computer laboratory and large field that can support student activities. The teacher's room and administration room are also not equipped with equipment and supporting equipment for management activities and administrative services that are in accordance with the needs of the education unit. The shape and area of the sports field have not been adjusted to the needs and characteristics of the school. And it has not been equipped with equipment in accordance with the curriculum of the education unit. The toilets are not in accordance with the needs of people with disabilities. With the fulfillment of educational facilities and infrastructure for people with disabilities, they will have the same opportunity to be equal to other humans and no longer be marginalized (Nisa, 2019). Good facilities and infrastructure can create a pleasant atmosphere for both teachers and students, so that learning achievement can increase and educational institutions can also improve the quality of their learning, because the facilities are adequate for all learning processes (Julita, 2020). Inappropriateness or lack of educational facilities and infrastructure will hamper the learning process, thereby reducing students' interest in learning, which results in a decrease in the quality of education at the school. Completeness of facilities and infrastructure as one of the supporters of educational success. Therefore, to improve the suitability of facilities and infrastructure at SDIT Daar El-Khaer, the recommendations that can be made are:

a. Involve all stakeholders (principal, head of facilities and infrastructure, treasurer, educators, and committees in the planning and procurement process of facilities and infrastructure.
b. Prepare reports on the need for facilities and infrastructure based on the budget and make it a top priority in the school program.
c. Conduct periodic monitoring in the implementation of the use of facilities and infrastructure. Record needs and repair any damage to facilities and infrastructure that are less than adequate.
d. Renew the socialization of legal standard references for facilities and infrastructure in accordance with Government Regulation Number 57 of 2021 concerning National Education Standards, Article 25 paragraph 1 and Regulation of the Minister of Education, Culture, Research, and Technology Number 22 of 2023 concerning Standards for Facilities and Infrastructure for Early Childhood Education, Elementary Education Level, and Secondary Education Level, Article 1 paragraph 1 states that the standards for facilities and infrastructure are the minimum criteria for

facilities and infrastructure that must be available in educational units in organizing education. As well as the Regulation of the Minister of Education, Culture, Research, and Technology Number 48 of 2023 concerning Appropriate Accommodation for Students with Disabilities in Formal Early Childhood Units, Elementary Education, Secondary Education, and Higher Education.

CONCLUSION

The evaluation of the implementation of facilities and infrastructure management is categorized into four components: design, installation, process, and comparative product evaluation against established standards. Based on the findings and analyses presented in the preceding chapters, the conclusions are as follows:

1. Design Stage:

   The design of facilities and infrastructure management is determined through limited meetings involving relevant stakeholders, excluding the school committee. The management practices follow the same provisions as in previous years, with no significant changes over time.
2. Installation Stage:

   Monitoring of the installation or implementation of education facility standards is entirely conducted by the head of facilities and infrastructure, with no direct involvement from the principal.
3. Process Stage:

   The process stage focuses on the regulation of facilities procurement. While facilities and infrastructure management has been implemented, there are bureaucratic challenges that hinder the approval process for certain facility requests, leading to some unmet proposals.
4. Comparative Product Stage:

   The final stage of this evaluation assesses the outcomes of facilities and infrastructure management against the standards outlined in Government Regulation Number 57 of 2021 and Ministerial Regulations Number 22 and 48 of 2023. It was found that approximately 50% to 55% of the facilities and infrastructure align with these regulations. This indicates that the proportion of compliant and non-compliant facilities is relatively balanced, with only minor differences observed.

Overall, the findings highlight areas for improvement in the design, monitoring, and implementation of facilities and infrastructure management to better align with regulatory standards and address identified barriers effectively.

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