

THE URGENCY OF EDUCATIONAL FACILITIES AND INFRASTRUCTURE MANAGEMENT IN RESPONDING TO THE CHALLENGES OF THE TIMES

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Abstract

Education is not only about learning and skills but also a planned effort to develop the individual. The success of education is highly dependent on the effectiveness of the learning process which is influenced by various factors, including the availability of adequate facilities and infrastructure. Infrastructure is a supporting facility that is not used directly, such as classrooms, laboratories, and libraries, while educational facilities are tools and equipment used directly in the teaching and learning process, including computers, books, and stationery. Ensuring a smooth teaching and learning process requires efficient management of infrastructure and facilities. This includes planning, inventorying, structuring, utilization, maintenance and periodic elimination. Using the literature study methodology, this research gathered information from various sources, including books, journals, and other relevant references. The findings of this study highlight the importance of managing infrastructure and facilities well to facilitate an efficient teaching and learning process. Good management is expected to overcome the challenges in managing school facilities and contribute optimally to the education process.

Keywords: Education Management; Facilities and Infrastructure; Management of Facilities and Infrastructure.

Abstrak

Pendidikan tidak hanya mencakup tentang pembelajaran dan keterampilan, tetapi juga merupakan Upaya terencana untuk mengembangkan individu secara menyeluruh. Hal ini meliputi penanaman nilai-nilai dan asimilasi pengetahuan untuk membentuk pribadi yang utuh, keberhasilan Pendidikan sangat bergantung

pada efektivitas proses pembelajaran yang dipengaruhi oleh berbagai factor, termasuk ketersediaan sarana dan prasarana yang memadai. Prasarana adalah sarana penunjang yang tidak digunakan secara langsung, seperti ruang kelas, laboratorium, dan perpustakaan, sedangkan sarana pendidikan adalah alat dan perlengkapan yang digunakan langsung dalam proses belajar mengajar, antara lain komputer, buku, dan alat tulis. Menjamin kelancaran proses belajar mengajar memerlukan pengelolaan infrastruktur dan fasilitas yang efisien. Hal ini mencakup perencanaan, inventarisasi, penataan, pemanfaatan, pemeliharaan dan penghapusan secara berkala. Dengan menggunakan metodologi studi literatur, penelitian ini mengumpulkan informasi dari berbagai sumber, antara lain buku, jurnal, dan referensi terkait lainnya. Temuan studi ini menyoroti betapa pentingnya mengelola infrastruktur dan fasilitas dengan baik untuk memfasilitasi proses belajar mengajar yang efisien. Manajemen yang baik diharapkan dapat mengatasi tantangan dalam pengelolaan fasilitas sekolah dan memberikan kontribusi optimal bagi proses Pendidikan.

Kata Kunci: Manajemen Pendidikan; Sarana dan Prasarana; Pengelolaan Sarana dan Prasarana.

A. INTRODUCTION

Education encompasses more than just learning; it is an integral part of the learning process itself. Therefore, education is an effort to raise awareness and plan for the process of developing individuals through the transmission of values, while learning is a conscious and planned process to develop individuals through assimilation. One of the key factors for success in education is highly influenced by the effectiveness of the learning process, which is shaped by various factors that support each other. In other words, the success of education depends on the ability and willingness of the government to provide the widest access to education for its citizens without any discriminatory attitudes (Baequni & Hanim, n.d.).

Education plays a very important role in the quality of nation-building processes. The progress of a nation is reflected in the quality of its education. Countries that lag behind in the field of education face challenges in their development process. The quality of education directly impacts the quality of a country's development. (Sinta, 2019)

Educational facilities are crucial in achieving educational success. The availability and completeness of these facilities in schools significantly affect the effectiveness and smoothness of classroom learning. Essentially, the management of school equipment involves the collaborative utilization of all educational tools in an effective and engaging manner. This means that the management of school facilities focuses on optimizing the use of school resources (Hasanah, I., Hefniy, H., & Zaini, A. W. 2023). Good management ensures that all facilities and infrastructure support the learning process and are used as needed, so that classroom activities can proceed smoothly and contribute to achieving the goals

of education. Therefore, the management of facilities and infrastructure is a vital part of achieving success in educational activities, particularly in teaching and learning processes. Proper management becomes an important task for all educational institutions, especially schools and organizations (Darmastuti & others, 2014).

Educational facilities and infrastructure are crucial resources that enhance the learning environment in classrooms. The condition of these facilities has a significant impact on the effectiveness of educational programs in schools, supporting the learning process, as well as the effectiveness of managing and utilizing these resources (Matin, 2016, p. 1).

Educational facilities that do not have a direct impact on education are included under infrastructure, while educational resources can be understood as tools and supplies specifically used to support education. Both are important facilities for conducting educational activities and supporting activities. It is important to note that educational facilities and infrastructure must be given attention and should not be neglected, as their presence determines the smooth functioning of the educational process. Without adequate supporting facilities and infrastructure, the educational process in an institution will be hindered in its implementation.

According to (Basilius R, 2015, p. 142), the management of educational facilities and infrastructure involves several key aspects: planning, procurement, inventory, maintenance, and disposal. The government consistently aims to improve facilities and infrastructure in all schools, both in urban and rural areas, recognizing the important role of schools in the educational process. To ensure the effectiveness of these efforts, it is important not only to provide adequate resources but also to implement strict supervision. This oversight is necessary to evaluate the extent to which facilities and infrastructure contribute to achieving and meeting educational goals.

Everything needed by teachers and students to support the implementation of education is included in educational infrastructure. The difference between infrastructure and facilities is evident in their roles. While educational infrastructure is generally used to support the planning and execution of educational activities, educational facilities are used to facilitate the distribution and teaching of educational materials. In this context, the terms "direct users" and "indirect users" refer to the roles of facilities and infrastructure within educational activities, as explained above.

Management of Facilities and Infrastructure is an important activity in educational organizations to ensure the smooth running of learning activities in schools. This activity involves organizing all the materials and equipment needed to carry out educational processes in schools. The management of facilities and infrastructure is essential to ensure that the learning process runs effectively and smoothly. This includes procurement, needs assessment, planning, storage, warehousing, distribution, utilization, maintenance, inventory, and disposal, as

well as the management of school grounds, buildings, equipment, and furnishings, with the aim of ensuring that they are used efficiently, beneficially, and in accordance with the educational needs and objectives.

Therefore, to ensure that the quantity and quality of facilities and infrastructure are maintained over a long period, significant efforts are needed in their management. Problems in managing school facilities are expected to be resolved through efficient management of infrastructure and facilities. The practice of utilizing all educational facilities and infrastructure effectively and efficiently is referred to as the management of facilities and infrastructure in education. By managing educational facilities and infrastructure, it can contribute maximally and significantly to the learning activities, which is the goal of managing these resources.

B. RESEARCH METHODS

The researcher uses one method, namely literature review, to search for and collect various materials, which are taken from sources such as books, journal articles, and other references related to the management of facilities and infrastructure in education. These sources include the definition of facilities and infrastructure in education, the definition of managing educational facilities and infrastructure, the procurement of educational facilities and infrastructure, inventory management, and the utilization, maintenance, and disposal of educational facilities and infrastructure. The data collection technique involves searching for relevant materials that are discussed in this article, both digitally and manually. After the references are gathered, the data is analyzed through reduction and reconstruction processes to develop new concepts.

C. RESULTS AND DISCUSSION

1. Definition of Educational Facilities and Infrastructure

The Kamus Besar Bahasa Indonesia (Indonesian Dictionary) defines "infrastructure" as support in carrying out a process, while "facilities" are anything that can be used as a tool to complete a task. More specifically, infrastructure refers to the physical aspects of education, such as school buildings, sports fields, and funding, while facilities are direct tools that are often used to achieve progress, such as books, libraries, and laboratories (Arikunto, 1987, p. 6–7).

In general, in order to achieve the goals of education successfully and effectively, all movable and stationary facilities necessary for the teaching and learning process are included in the category of educational facilities. Items that are used and those not yet used in the teaching process are also considered educational facilities, according to (Sukirman, 1999). The collaborative process of utilizing all educational assets and infrastructure effectively and efficiently can be referred to as the management of facilities and infrastructure. This definition emphasizes the need to use and manage existing infrastructure and facilities to

enhance the learning process. The goal of managing these resources is to ensure their effective and efficient use (Sulistiyorini, 2009, p. 85).

According to (Mulyasa E, 2002, p. 49), educational infrastructure consists of buildings that support education indirectly, while educational facilities are the furniture and equipment that directly support the teaching and learning process, such as classroom desks, seating, and media equipment. Educational infrastructure refers to facilities such as school grounds, access roads leading to the school, and school policies and procedures that indirectly support the learning process. Imam Machli defines the management of educational facilities and infrastructure as the organization of educational activities from conception to completion, including the arrangement of school grounds, buildings, equipment, and furniture.

The role of educational facilities and infrastructure is crucial in ensuring smooth teaching and learning activities. Educational supervisors particularly focus on the state of facilities and infrastructure in each school. Educational facilities include equipment and supplies used in the educational process, such as books, laboratories, and libraries. On the other hand, educational infrastructure consists of elements that help and support the educational process, such as school buildings, playgrounds, and financial resources. Given the importance of this, the management of facilities and infrastructure in education requires greater attention to assist in the effective and orderly learning process. Facilities and infrastructure are essential to the success of education delivery because, without them, the educational activities will be hindered (Rahayu & Sutama, 2016).

Some experts, such as (Wijono, 1989), argue that infrastructure (prasarana) is usually available before facilities (sarana) in the context of education. From the various expert opinions, it can be concluded that, in general, educational facilities and infrastructure are tools that support the learning process, with facilities playing a direct role and infrastructure playing an indirect role.

2. Definition of Educational Facilities and Infrastructure Management

The management of educational facilities and infrastructure is a procedure with the main goal of achieving educational objectives, starting from planning and procurement to monitoring learning instruments. Another way of thinking about management in terms of facilities and infrastructure is as equipment management with an emphasis on achieving a predefined goal. This management involves a series of actions intended to produce results that align with the intended objectives (Ramadhan & Afriansyah, 2019).

In the context of schools, managing facilities and infrastructure is very important as it can significantly improve the effectiveness of the learning process. The management of educational facilities and infrastructure includes the organization and management of resources owned by educational institutions. This process is carried out systematically and follows the functions and procedures

of management that are applied (Rochmania, 2021). The organization of facilities and infrastructure in schools follows the same steps as general management: planning, acquisition, inventory, maintenance, and disposal of assets, as well as organizing land, buildings, and school equipment. To support all aspects of learning, the needs for facilities and infrastructure in every school must be well developed. As future educators, it is important to understand how to manage these resources effectively to enhance our ability to achieve educational goals (Ramadhan & Afriansyah, 2019).

The management of learning facilities involves the entire process of planning, procurement, utilization, and supervision in managing facilities and infrastructure necessary to achieve educational goals in schools efficiently and effectively. This involves organizing and maintaining resources to ensure that these resources contribute optimally to the educational process, thus yielding successful results. Schools can meet community expectations and establish themselves as organizations with a good reputation if they have adequate infrastructure and facilities, quality staff, and efficient use of resources (Rahayu & Sutama, 2016).

By summarizing several previous opinions, I can conclude that the management of facilities and infrastructure in education is a series of activities or arrangements aimed at planning, procuring, and maintaining learning equipment and the school environment.

3. Procurement of Educational Facilities and Infrastructure

Procurement is the process of providing all the infrastructure and resources needed by schools to achieve predetermined goals. The management of educational facilities and infrastructure in schools begins with procurement. All activities related to providing various types of infrastructure and educational facilities in accordance with specific needs to meet established goals are part of procurement. The goal is to ensure that the learning activities align with the expected objectives by providing effective and efficient assistance. (Fathurrochman et al., 2021)

This procurement process requires several tasks to provide educational facilities and infrastructure that meet the specified needs, including type, quantity, time, location, costs, and calculable resources. The Ministerial Regulation Number 24 of 2007 must be followed in all processes related to the acquisition of goods and services. According to (Matin, 2016, p. 8), here are the steps for the procurement of school facilities and infrastructure:

- 1) Conduct a needs analysis with its function in the facilities and infrastructure activities.
- 2) Categorize the required facilities and infrastructure.
- 3) Prepare a proposal for the procurement process of the facilities and infrastructure to be submitted to the committee, whether for public or private schools.

- 4) If the proposal is approved, the facilities and infrastructure will be assessed by the relevant authority to approve their suitability.
- 5) Once approval is given, the facilities and infrastructure will be handed over to the requesting school.

In summary, the procurement of facilities and infrastructure in education for schools is an important first step in creating an environment that meets the institution's needs and supports the learning process.

According to (Bafadhal, 2004, pp. 32–35), in the procurement of facilities and infrastructure, there are several important points to acquire the necessary school equipment, including:

- 1) Purchasing, either directly from stores or factories.
- 2) Gifts or donations, either from individuals, organizations, institutions, or certain foundations. These gifts or donations can come from various sources, including: a) Gifts or donations from students entering or alumni, as well as teachers or school staff. b) Gifts or donations from publishers, government institutions, private foundations, and others. c) Another method is exchanging facilities or borrowing from designated parties, such as the principal, teachers, or parents (Baequni & Hanim, n.d.).

To meet the various needs for school supplies according to established procedures and in a responsible manner, the procurement of educational facilities and infrastructure is carried out. This procurement strategy includes loans, exchanges with other managers, gifts, donations, and purchases.

4. Inventory of Educational Facilities and Infrastructure

Inventory comes from the Latin word “*Inventarium*,” meaning a list of goods or materials (Riello, G. 2021). It involves recording and organizing items or materials in accordance with established regulations. This definition highlights that inventory involves documenting all state-owned property. However, in practice, inventory does not only include state-owned items; it includes all items or equipment in schools, whether consumable or durable, owned by the state or a school, movable or immovable, regardless of value. All these items must be inventoried in an organized and consistent manner, following the applicable procedures. The purpose of inventory is to improve the effectiveness of management and supervision of both state and private property. Conducting inventory provides important information for managing facilities and infrastructure more effectively, assisting tasks such as planning, rehabilitation, and disposal. (Saputra & Sriyanto, 2021).

Inventory in the process of facilities and infrastructure in education is the process of recording or bookkeeping items owned in an inventory ownership in a systematic and orderly manner, in accordance with the regulations that have been established or are applicable. According to (Bafadhal, 2004, p. 55), inventory includes all educational supplies that have been determined and owned by the

school in an organized and disciplined manner, according to the guidelines that have been set.

Inventory in schools includes all items owned by the state that are provided to a school, whether obtained through government funds, the Department of Regional Development, as a result of exchanges, gifts, donations, or from self-manufacturing efforts at the school. The primary goal of inventory is to ensure the smooth process of learning in every school, and each school is required to regularly and completely conduct inventory of the items they own. The school principal is responsible for carrying out the inventory of state-owned goods in their school.

According to (Direktorat Tenaga Kependidikan, 2007, p. 41), the general goals of inventorying educational facilities and infrastructure are:

- 1) To maintain and create a management system for facilities and infrastructure within the institution.
- 2) To save financial expenditure within the institution, both in the processes of purchasing, maintaining, and disposing of the facilities and infrastructure.
- 3) To provide an overview and ideas for assessing the ownership or assets of the institution with calculated values that are measurable in monetary terms.
- 4) To facilitate monitoring, control, and supervision of the institution's facilities and infrastructure.

According to (Bafadhal, 2004, p. 56), the activities involved in inventorying include the following: 1) Activities related to recording and coding items of equipment. 2) Reporting activities. Inventory management, according to (Direktorat Tenaga Kependidikan, 2007, p. 43), can be conducted through various documents, such as master books, inventory books of assets, inventory books for non-inventory items, quarterly inventory reports, asset lists, and recapitulation inventory lists.

This explanation leads us to the conclusion that the process of inventorying all assets owned by the school is to ensure careful management and supervision, as well as to fulfill requirements such as reporting school facilities and infrastructure, known as the inventory of educational facilities and infrastructure.

5. Utilization of Educational Facilities and Infrastructure

The availability of school infrastructure and facilities has a significant impact on the smooth running of school tasks. The need for teaching materials and educational aids can be fulfilled through more complete and high-quality facilities and infrastructure, thus facilitating the learning process and helping students achieve learning goals. According to (Bafadhal, 2004, p. 42), it is important for school staff who use school equipment to do three main things: understand the usage instructions for educational equipment, organize educational equipment, and carry out general and periodic maintenance of educational equipment.

According to (Abudin, N, 2011), educational facilities and infrastructure provide several benefits, including:

- 1) Helping to clarify unclear or abstract concepts, such as using films to explain fetal development inside the womb.
- 2) Demonstrating concepts that cannot be physically brought into the classroom, such as using video to teach about the Hajj pilgrimage without having to travel to Mecca or Medina.
- 3) Stimulating students' learning motivation.
- 4) Regulating and controlling the learning pace of students.
- 5) Enabling all students to directly interact with learning resources.

The proper utilization of learning facilities is crucial in educational activities because effective learning depends on the availability of good and adequate facilities. Without quality and sufficient facilities and infrastructure, the learning process for students can be hindered, which will negatively affect their academic performance (Rajendran, S., Chamundeswari, S., & Sinha, A. A. 2022).

An opinion from (MKDK, Tim., 2011) emphasizes that inventory activities must be carried out in a detailed and continuous manner. Inventory aims to streamline the management of educational facilities and infrastructure, control and monitor them, and maximize the support for teaching and learning activities. Another goal is to ensure that the educational facilities and infrastructure are utilized according to their intended purposes and functions.

6. Maintenance of Educational Facilities and Infrastructure

The maintenance of educational facilities and infrastructure in schools is an activity aimed at organizing and maintaining all educational facilities so that they remain in good condition and can be used efficiently to achieve educational goals. Maintenance of facilities in the educational process can be categorized based on its nature and timing. According to its nature, maintenance includes inspection, preventive action, minor repairs, and major repairs. Based on time, maintenance includes daily tasks such as cleaning rooms and equipment, as well as periodic tasks like painting walls, and checking desks, tiles, and other furniture (Fatmawati et al., 2019).

Educational facilities are crucial in encouraging the success of the learning process. Proper use of learning facilities can facilitate the absorption of the material being taught. According to (Mustari, M, 2015), several factors must be considered in utilizing these facilities, including:

- 1) The goals the school aims to achieve.
- 2) Aligning the media with the material to be covered.
- 3) The availability of supporting facilities and infrastructure.
- 4) The characteristics of each individual student.

Maintenance involves preventive actions to avoid damage to items by making efforts to keep them in good condition. This includes every routine action, starting with careful use, to ensure that equipment remains in optimal condition. Workers with specific expertise in the type of items required usually carry out more detailed maintenance (Hauashdh, A., Jailani, J., Rahman, I. A., & Al-Fadhali,

N. 2022). By maintaining educational facilities and infrastructure, school members perform their duties in maintaining order and discipline.

According to the (Direktorat Tenaga Kependidikan, 2007, pp. 31–32), the goals of maintenance in schools are:

- 1) To maximize the service life of the equipment.
- 2) To ensure that every item is operational for its function, thus optimizing performance and achieving the desired outcomes.
- 3) To ensure the availability of equipment through routine and periodic inspections.
- 4) To ensure the safety of everyone or students who wish to use the equipment.

Therefore, maintenance in the educational infrastructure process at schools is very important to ensure that all the necessary equipment is in good condition. This maintenance supports the smooth running of the learning process. All school equipment requires regular maintenance, supervision, and care to be used effectively.

7. Disposal of Educational Facilities and Infrastructure

The disposal of educational facilities and infrastructure is an important procedure aimed at removing items from inventory that are no longer functional, especially if they are used for educational purposes at schools. This procedure must be carried out in accordance with relevant regulations and laws, considering several normative considerations. It is conducted to improve the effectiveness and efficiency of the school's learning program (Matin, 2016, p. 127).

The purpose of disposal is to minimize or prevent losses related to items that require high maintenance costs, avoid unnecessary costs for securing non-functional equipment, relieve the institution from the responsibility of maintaining and securing such items, and reduce the burden of inventory management (Rochmania, 2021).

The removal of educational facilities and infrastructure includes procedures to eliminate responsibility for these items due to justifiable reasons. More specifically, this is the process of removing educational infrastructure and facilities from inventory records because they are no longer suitable for their intended purpose, particularly in terms of facilitating teaching in the classroom. The removal is carried out in accordance with all applicable regulations and provisions. To maintain the effectiveness and efficiency of educational activities in schools, several normative considerations must be taken into account during the execution of this process (Nurstalis et al., 2021).

The removal process for each inventory item in schools, from central to regional levels, is carried out by a removal committee or team based on decisions from each primary unit representing finance, technical, and equipment sectors at the beginning of the fiscal year.

According to (Matin, 2016, p. 128), the objectives of removing facilities and infrastructure are as follows: 1) Preventing and Minimizing Losses caused by

expenses for the maintenance and repair of damaged equipment. 2) Preventing Wasteful Costs for securing items that are no longer functional or useful. 3) Freeing the Organization from the responsibility of maintaining and insuring equipment that is no longer in use. 4) Reducing the Inventory Load.

There are several reasons that can serve as the basis for the removal of educational facilities and infrastructure. These conditions are criteria that must be determined or met by the items to be removed, including:

- 1) The facilities and infrastructure are in such a condition that they are no longer usable or severely damaged, making them difficult or impossible to repair or reuse.
- 2) The cost to repair the facilities and infrastructure is very high, making it an excessive expenditure and waste.
- 3) The technical and economic benefits of the facilities and infrastructure do not justify the maintenance costs.
- 4) The facilities and infrastructure are no longer needed for current purposes.
- 5) There is an excess of items that would deteriorate further if stored longer without being used.
- 6) Facilities and infrastructure that have been damaged due to natural disasters such as theft, damage, or fire.

From the explanation above, I conclude that removal is a process of eliminating items that no longer function as intended from the inventory list, which must be carried out according to the organization's regulations. Items to be removed must meet the established removal criteria and follow specific procedures, including forming a committee, selection, and registration of items to prepare a list of items for removal and submitting proposals.

D. CONCLUSION

As a key process supporting teaching and learning, educational infrastructure and facilities are vital in the field of education. Schools require excellent educational facilities and infrastructure to enhance student performance and ensure a smooth learning experience. Educational facilities and infrastructure include all elements that help the educational process achieve its goals, both directly and indirectly. Planning, procurement, maintenance, inventory management, and disposal are just a few of the procedures involved in managing educational buildings and infrastructure.

It is crucial for schools to consistently maintain, preserve, and manage their facilities and infrastructure in the best possible way, as this directly impacts the outcomes of the learning process and serves as one of the indicators of a school's quality. The advancement of time demands continuous improvement of educational facilities and infrastructure. With good management, educational facilities and infrastructure can positively influence the achievement of educational goals.

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