

## **Management of Infrastructure in Supporting the Implementation of the Merdeka Curriculum**

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**Abstract:** Infrastructure management is the most important thing in supporting the implementation of Merdeka curriculum in schools. This study aims to describe and analyze the management of facilities and infrastructure in supporting the implementation of the Merdeka Curriculum and describe and analyze obstacles and solutions to overcome the gap in facilities and infrastructure in supporting the implementation of the Merdeka curriculum in SMP Negeri Keluang. Data collection techniques in this study used interview, observation, and documentation techniques. In the interviews, researchers involved principals, treasurers, wakasapras, and teachers. Data analysis techniques in this study include data reduction, data presentation, conclusions, and data validity using triangulasi. This study concluded that the management of infrastructure facilities to support the implementation of the Merdeka curriculum at SMP Negeri Keluang has been carried out well by management functions. This study contributes to the principals in Indonesia to apply management of facilities and infrastructure where they would implement the Merdeka Curriculum.

**Keywords:** Implementation of the Merdeka Curriculum, Infrastructure, Management

### **A. Introduction**

One of the key components of any nation's development is education. Teachers are a good indicator of a country's growth. The purpose of education is to organize self-development activities to help pupils become excellent human beings by setting goals (Madin et al., 2022). "National education functions to develop abilities and shape the character and civilization of a dignified nation to educate the life of the nation, aiming to develop the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, Merdeka, and become democratic and responsible citizens", according to Article 3 of Law Number 20 of 2003 concerning the National Education System.

The achievement of educational goals is largely determined by the process of organizing education in educational institutions in this case educational units (Uy et al., 2023). The quality of students is largely determined by the support of several components in the educational unit itself, starting from the leadership of the principal, the performance of educators and education personnel, curriculum, stakeholders, and educational facilities and infrastructure (Ali et al., 2020). Several of these components have their respective roles, one of which is the existence of educational facilities and infrastructure. According to Komariah (2018), the importance of educational infrastructure and facilities is not only tied to how well students learn in schools but also becomes an integral component of how educational institutions run as a whole. The infrastructure and facilities of an educational institution are also linked to the legitimacy of its leadership, its reputation, and the community's trust in those institutions (Valli et al., 2018).

Facilities and infrastructure are all objects or goods that are movable or immovable and are used to support the implementation of the learning process directly or indirectly in education. Infrastructure and facility management are necessary to facilitate the teaching and learning process. Land, buildings, equipment, and school furniture should all be arranged properly and on schedule. The management of facilities and infrastructure can be understood as an organizing activity that begins with planning needs, procurement, storage and distribution, utilization, maintenance, inventory, and disposal. It is anticipated that well-managed infrastructure and facilities will result in a tidy, clean, and attractive school, making it enjoyable for both instructors and kids to attend. Providing expert services is the goal of managing school infrastructure and amenities to facilitate an effective and efficient learning environment (Abbas, 2020).

The following are the goals of educational facilities and infrastructure: (1) to work toward the acquisition of school facilities and infrastructure through a methodical and meticulous planning and procurement process, ensuring that schools have adequate facilities and infrastructure by needs and with efficient funds; (2) to work toward the appropriate and efficient use of school facilities and infrastructure; and (3) to work toward the maintenance of educational facilities and infrastructure, ensuring that they are in a state that is ready for use. If proper infrastructure and facilities are in place, the teaching and learning process will be more efficient and of higher quality (Eze et al., 2018; Moore & Fodrey, 2018).

Therefore, it can be claimed that the educational process has less significance in the absence of infrastructure and services. Students will benefit more from the assistance of current learning facilities and infrastructure because of the direct relationship between students, teachers, and schools as well as the significance of these elements in learning activities (Hanaysha et al., 2023). Not every student is intelligent enough to benefit from the utilization of learning resources and infrastructure, particularly

those who struggle to participate in class activities. To fulfill the established educational goals, management is required to make the best use of the infrastructure and facilities in schools. Every educational facility and piece of infrastructure will be able to be used effectively and efficiently with proper administration (Mohzana et al., 2023).

One of the things that is crucial to accomplishing educational objectives in schools is educational infrastructure and amenities (Saini et al., 2023). The availability of school facilities and infrastructure, as well as teachers' capacity to make the most of these resources, are critical to the effectiveness of all educational activities conducted at a school (Barnawi et al., 2012; Mulang, 2021). Alongside the advancement of science and technology, the infrastructure and facilities for education are developing at an accelerating rate creating instructional resources to facilitate the learning process. The laws governing educational infrastructure and facilities must still be followed when using these instruments, nevertheless, the intended goals must be consulted. An educational institution's infrastructure and amenities have a direct impact on how the autonomous learning policy is implemented. Infrastructure and facilities that are secure and comfortable are necessary to support freedom of thought and to provide a favorable atmosphere for teaching and learning. Learning facilities and infrastructure are the resources that play an important role in supporting the learning process in schools (Purnamasari et al., 2020).

The curriculum's implementation since educational facilities and infrastructure might facilitate the classroom learning process, it is impossible to separate the autonomous curriculum in this instance from their existence and support. Therefore, for the infrastructure and facilities in educational units to support the execution of the autonomous curriculum, they must be appropriately controlled through an effective management mechanism. According to the theory that explains that the teaching and learning process will be more effective and of higher quality if supported by adequate facilities and infrastructure, the implementation of the learning process supported by facilities and infrastructure is used to measure the success of the Merdeka curriculum. The teaching and learning process is a series of activities carried out by teachers and students by utilizing the available facilities and infrastructure to obtain optimal learning outcomes (Amtu et al., 2020). Thus, without educational facilities and infrastructure, it can be said that the educational process is less meaningful. To maximize the use of educational facilities and infrastructure optimally, management is needed so that the formulated educational goals can be achieved perfectly.

Administration of infrastructure and facilities, which is directly tied to self-directed learning. Comfortable infrastructure and facilities are necessary to enable congenial teaching and learning activities and to actualize freedom of thought. Students and teachers are the main consumers of the infrastructure and facilities. To facilitate the

autonomous learning process, educational institutions – formal and informal – must provide adequate infrastructure and amenities based on students' interests and developmental stages. Good management of facilities and infrastructure is expected to create a clean, tidy, and beautiful school to create pleasant conditions for both teachers and students to be at school (Nurhuda et al., 2023). In addition, there is also the availability of adequate learning tools or facilities quantitatively, qualitatively, and relevant to needs and can be utilized optimally for the benefit of the education and teaching process, both by teachers as teachers and students as learners. With the management of educational facilities and infrastructure, all educational facilities and infrastructure will be able to be utilized effectively and efficiently. Abualoush et al., (2018) asserts that the goal of facility and infrastructure management as a whole is to offer expert services in the area of educational infrastructure and facilities to efficiently and successfully organize education.

In relation to the description above, the researcher took the setting of the research location on facility and infrastructure management in junior high schools in the Keluang sub-district, namely SMP Negeri 1 Keluang and SMP Negeri 2 Keluang. The two junior high schools were selected because, according to preliminary observations, SMP N 1 Keluang and SMP N 2 Keluang have all the infrastructure and facilities needed to promote learning, as well as apply the Merdeka curriculum. Furthermore, issues were discovered, including inadequate use of facilities like science labs and musical instruments, unfinished library books, poor planning, use, and management of facilities, and inadequate maintenance of the infrastructure as a result of inadequate oversight of the current infrastructure.

For principals and teachers to use the educational infrastructure in schools to enhance the quality of learning during the implementation of the Merdeka Curriculum, we believe that a more thorough investigation into infrastructure management is necessary to support the implementation of the curriculum. Additionally, by optimizing the function and utilization of infrastructure to achieve learning goals and educational objectives effectively – such as learning practice locations and reference sources – this study can help strengthen infrastructure management in educational units. It can also increase the effectiveness and efficiency of the use of educational unit infrastructure in learning, increase the accountability of educational units to all parties involved in the use of infrastructure resources, and help educational units manage changes – such as technology-based infrastructure – in an efficient and effective manner. Given the context of the issue, it is crucial to research the role that infrastructure management plays in assisting SMP Negeri 1 Keluang and SMP Negeri 2 Keluang in implementing the Merdeka curriculum. This research will be different from previous research because this research provides a significant contribution to organizing infrastructure in educational units to support the implementation of the Merdeka curriculum.

## **B. Methods**

The location of this research is at SMP Negeri Keluang, namely SMP Negeri 1 Keluang and SMP Negeri 2 Keluang. This research uses a qualitative approach which is interpreted as the researcher's efforts to collect data based on the natural environment. While the type of research is descriptive research using the case study method, which is a study that is carried out intensively, in detail, and depth on a particular organization, institution, or symptom. The case study method is one kind of descriptive approach, according to (Arikunto, 2017). It involves conducting extensive, detailed, and in-depth research on a specific organism, institution, or symptom with a limited area or issue. According to Sevilla et al (2003), qualitative descriptive research is a technique for assessing the condition of an object or a group of people to create a descriptive, methodical, factual, and accurate picture or painting of the facts or phenomenon under investigation. Documentation studies, interviews, and observation are used to gather data.

Purposive sampling was used in the process of selecting the informants. The method for selecting informants is known as the purposive sampling approach, which is a sampling strategy that is modified by certain standards that are established by research objectives (Sugiyono, 2010). There are two categories of research informants, specifically:

1. Key Informants in this study were the Principals of SMP N 1 and SMP N 2 Keluang. This is because the Principal is an informant who knows and understands the management of facilities and infrastructure that support the implementation of the Merdeka curriculum.
2. Additional Informants, namely anyone found in the research area who is suspected of being able to provide information about the problem being studied. Additional informants in this study were the Treasurer, the Person in Charge of Facilities and Infrastructure, and Teachers.

## **C. Results and Discussion**

### **Management of Facilities and Infrastructure in the Implementation of the Merdeka Curriculum**

Government Regulation of the Republic of Indonesia Number 19 of 2005 concerning National Education Standards, Article 42 states: 1) Every educational unit must have facilities including furniture, educational equipment, educational media, books, and other learning resources. Consumables and other equipment are needed to support an orderly and sustainable learning process. 2) Every educational unit must have infrastructure including land, classrooms, educational unit leadership rooms, educator rooms, administration rooms, library rooms, laboratory rooms, workshop rooms, production unit rooms, canteen rooms, power and service installations,

sports facilities, places of worship, playgrounds, recreation areas, and other rooms/ places needed to support an orderly and sustainable learning process.

According to the Government Regulation, educational units at all educational levels, including SMP Negeri 1 Keluang and SMP Negeri 2 Keluang, satisfy the requirements for these facilities and infrastructure. Direct observations at the two schools reveal that they already have classrooms, libraries, lab spaces, learning media, and learning resources, all of which are being gradually finished by the schools. From the planning stage to the organization, use, and oversight, the facilities and infrastructure at both schools are effectively managed, allowing for their continuing and sustainable use to this day. Lian & Amiruddin (2021) Asserts that management science is closely tied to the learning process that teachers carry out both in-person and online. This includes the preparation of lesson plans, learning objectives, learning media, learning methods, and materials, as well as the application of effective learning strategies and effective classroom management to ensure that every student is engaged and active in the learning process.

To achieve student learning achievement through the implementation of the curriculum supported by effective facilities and infrastructure management, the management of facilities and infrastructure in both schools seeks to guarantee that teachers and students can use the facilities and infrastructure in learning as a form of implementing the Merdeka curriculum. Because good facility and infrastructure management fosters student creativity, it is crucial and strategic to manage these elements when implementing the Merdeka curriculum. This is in line with the belief that basically educational facilities and infrastructure in schools are one of the fields of study of school management or educational administration and are also the main task of the principal (Alam, 2022; Sahertian et al., 2003).

As stated in Article 12 paragraph 1 of Government Regulation Number 28 of 1990, "The principal is responsible for organizing educational activities, school administration, coaching other education personnel, and utilization and maintenance of facilities and infrastructure" Mulyasa (2003), the principal's role as the leader of the educational unit has a significant impact on the management of facilities and infrastructure, and as a result, educational facilities and infrastructure are a major factor in supporting a school's quality. Hikmat (2009) details the management functions stating that the management functions include 1) Planning, 2) Organizing, 3) Coordinating, 4) Commanding, 5) Controlling. While according to (Siagian, 2009) quoted by Alwi (2018) states that management functions include: 1) Planning, 2) Organizing, 3) Motivating, 4) Supervising, and 5) Assessment.

The completeness of infrastructure and facilities will aid teachers in planning the educational process (Sanjaya, 2007; Shirrell et al., 2019). As a result, infrastructure and facilities are crucial elements that can affect the educational process. Because the

Merdeka curriculum essentially calls for flexibility and is focused on differentiated learning, schools with complete facilities and infrastructure can encourage students' enthusiasm and motivation during the learning process. With these resources, teachers can adapt their instruction to meet the needs of their students and encourage creativity and interest in learning. As the head of the educational unit, the principal plays a crucial role in managing the infrastructure and facilities because, in implementing the Merdeka curriculum, the principal has undoubtedly taken the state of the school into account by analyzing the school's state (Yafie et al., 2024). This allows the principal to compile the operational curriculum of the educational unit, which is an embodiment of the Merdeka curriculum and increases student achievement in both academic and non-academic areas. This supports the idea that improving student creativity and achievement in both academic and extracurricular domains requires prompt and significant attention from quality infrastructure management.

In infrastructure management, the first step is planning, which is done to meet the needs of the educational development in schools; the second is organizing the resources that are already in place in schools, such as the human resources that will use the infrastructure; the third is implementation, which in this case entails realizing the infrastructure needs plan through the procurement, inventory, maintenance, and disposal of infrastructure; and the fourth is supervision, in which the information gathered from supervision is used to plan for the purchase of new infrastructure or for the repair of infrastructure that is still deemed suitable for use.

Observing the results of data analysis at SMP Negeri 1 Keluang and SMP Negeri 2 Keluang, it can be explained that the infrastructure planning process follows the rules for compiling plans such as:

1. Conducting a needs analysis, Analysis of the needs of educational facilities and infrastructure is carried out to determine the facilities and infrastructure needed to support the learning process based on the Merdeka curriculum. The needs analysis involves the principal, teachers, administration, and stakeholders.
2. Conducting a financing analysis, Financing analysis is carried out to meet the needs of purchasing facilities and infrastructure to minimize the use of funds that are not on target. In this step, both schools optimize the use of BOS funds and self-help from alumni, school committees, and individual donations from parents.
3. Conducting a priority analysis, Priority analysis of facilities and infrastructure is something that needs to be considered before making procurement. Priority analysis is the selection of teacher proposals in planning educational facilities and infrastructure needed by the school and refers to the available BOS funds.

According to Nurabadi (2014), the following are the phases involved in planning educational facilities: (1) Examining the requirement for learning environments that are tailored to the previously created curriculum. (2) A selection process must be conducted using a priority scale if the demand for educational facilities outweighs the school's financial resources or manufacturing capability. (3) making a list of all the educational resources that are owned. (4) gathering information to decide whether monies should be allocated for the purchase of educational facilities. (5) Designating an individual to oversee the implementation of the acquisition of educational facilities.

In terms of organization, SMP Negeri 1 Keluang and SMP Negeri 2 Keluang make the most of the resources found at the school, including teachers who suggest the need for infrastructure and facilities, funding for the purchase of infrastructure and facilities included in the School Budget Activity Plan, and enabling the possibility of funding from stakeholders like the school committee, alumni, and student parents to help meet the needs of school infrastructure and facilities. The realization of facility and infrastructure management at SMP Negeri 1 Keluang and SMP Negeri 2 Keluang is carried out through the mechanisms of procurement, maintenance, inventory, and disposal. In terms of procurement of facilities and infrastructure, it is done Merdekaly by following the applicable provisions, while procurement of assistance is provided by stakeholders. Maintenance is adjusted to the condition of the facilities and infrastructure, such as short-term maintenance and long-term maintenance.

Maintenance is very important so that the facilities and infrastructure in schools can be used continuously and sustainably. Jasiulewicz - Kaczmarek & Gola (2019) defines maintenance as an ongoing process that keeps every object in good working order and prepared for usage. According to Bafadal (2004), there are various kinds of equipment maintenance in schools, depending on the equipment's nature and repair time. According to their nature, there are four different kinds of maintenance for educational equipment; (1) Checking maintenance; (2) Preventive maintenance, namely to ensure that it is consistently in good shape; (3) Maintenance involving minor repairs; (4) maintenance that involves extensive repairs. Equipment maintenance can be divided into two categories based on repair time: (1) daily maintenance and (2) periodic maintenance.

Infrastructure management must also focus on the issue of getting rid of infrastructure that is no longer needed because if it isn't deleted, the asset will still be listed in the infrastructure asset report even though it isn't being used. To do this, the education unit must prepare data on the infrastructure that will be removed and then submit a report to the education office so that it can be taken out of the school inventory. Education units are concerned about infrastructure management oversight since adequate control over infrastructure utilization is impossible without



it. Supervision is necessary to guarantee the sustainability of infrastructure use since schools are unaware of the state of the infrastructure, especially how teachers and students use it. The infrastructure's condition can be inspected in every area of the room as part of supervision, or it can be examined in the infrastructure's inventory and maintenance report book to get a clear picture of its state.

Infrastructure management is the most crucial component in attaining the quality of learning and the quality of education units because of how crucial infrastructure is to facilitating the implementation of the autonomous curriculum in educational units. This supports the belief that "the state of the educational facilities and infrastructure owned by the school and the management of the facilities and infrastructure carried out greatly influence the success of an educational or learning process in schools." Without sufficient infrastructure and facilities, education will not function effectively. However, without administration by the relevant school, infrastructure, and facilities cannot be used to their full potential (Nurharirah & Effane, 2022).

### **Obstacles and solutions are taken to overcome the gap in facilities and infrastructure in supporting the implementation of the Merdeka curriculum at SMP N Keluang**

The results of the research data analysis provide an overview that in the management of infrastructure, SMP Negeri 1 Keluang and SMP Negeri 2 Keluang face obstacles such as costs, mapping, and maintenance. These obstacles can be resolved by the school with various solutions such as fulfilling infrastructure according to priority needs and carried out in stages according to the conditions of BOS funds. This is consistent with Rahmatun's (2010) research findings (Nurharirah & Effane (2022), which state that the challenges in the process of infrastructure and facility management are; (1). Human resources (HR) are crucial and essential to the process of managing infrastructure and facilities, yet they are few. The administration of infrastructure and facilities can function more efficiently with the assistance of a dedicated team; (2). The school's limited financial resources The primary factor influencing the completion of comprehensive and high-quality infrastructure and facilities is funding. An educational institution will find it simpler to buy equipment or facilities if they have enough money. If educational institutions have enough money, they will be able to meet their needs. In actuality, though, a large number of schools continue to struggle to achieve their instructional goals due to a lack of funding; and (3). Teachers' lack of awareness of their involvement in infrastructure and facility management, particularly in maintenance. In addition to having dedicated officers in charge of planning and overseeing school infrastructure and facilities, other stakeholders must also be aware of their responsibilities.

One of these is how crucial teacher understanding is to the management of these resources, particularly when it comes to the upkeep of school facilities and

infrastructure. According to data analysis, the steps taken to overcome challenges in the management of facilities and infrastructure at SMP Negeri 1 Keluang and SMP Negeri 2 Keluang include planning the needs of facilities and infrastructure using a priority scale, acquiring facilities and infrastructure in phases, and raising awareness among school residents especially students that a sense of ownership over facilities and infrastructure is crucial to enhancing their academic and extracurricular accomplishments. So, when it comes to managing the school's infrastructure and facilities, all of the inhabitants share the same goal. In the meantime, prior research has been conducted for SD 1 Prabumulih to address the following issues: 1) Procurement must adhere to the prepared School Work Plan; 2) Organization must be conducted by the school's responsibilities and functions; and 3) Control of procurement and use of facilities and infrastructure must be carried out using previously established procedures, ensuring that supporting documentation is complete. Each stakeholder's function dictates the infrastructure and facility quality of education at SD Negeri 1 Prabumulih (Manurung et al., 2020).

This is in line with the viewpoint that outlines the solution to ensure that infrastructure and facility management can continue to function efficiently. To get beyond these challenges, researchers provide ideas or solutions such as The leader of an educational institution can implement a policy that requires all members of the institution—students, faculty, staff, and the institution's leader—to maintain and care for the infrastructure and facilities to overcome the shortage of human resources. They must be driven by the desire to provide quality infrastructure and amenities for the benefit of the next generation of students. 2. To overcome inadequate funding, the central government and the regional government must coordinate to identify educational institutions that are financially deficient. To receive appropriate and assured facilities and infrastructure in the future, the head of an educational institution or the treasurer can also write a letter to the government confirming the fulfillment of educational facilities and infrastructure. 3. Teachers need to be more inventive in coming up with other ways to continue teaching engagingly and joyfully without full facilities and infrastructure, like modifying their teaching strategies.

#### **D. Conclusion**

Based on the results of research and discussion on the management of facilities and infrastructure in supporting the implementation of the Merdeka curriculum at SMP Negeri Keluang, it is concluded that:

1. The management of facilities and infrastructure is crucial for the implementation of a quality Merdeka curriculum. This involves planning, implementation, organization, and joint supervision of all school components and stakeholders. Quality management of these resources significantly impacts student achievement and creativity, both academically and non-academically.

2. Schools face challenges in managing educational facilities and infrastructure for Merdeka curriculum implementation, including financing, prioritizing needs, and building commitment. Solutions include prioritizing needs, procuring resources in stages, and encouraging joint maintenance and utilization.

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