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Integrative Model of School Facilities and Infrastructure Management in Improving the Quality of Learning in Simeulue Regency

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ABSTRACT

Objective: This study aims to analyze and develop an integrative management model of school facilities and infrastructure in an effort to improve the quality of learning in State Junior High School (SMPN) Simeulue Regency. The focus of the research is directed at the synergy of management functions, namely planning, organizing, actuating, and controlling (POAC) to build an efficient, accountable, and sustainable school management system. **Methods:** This study used a descriptive qualitative approach with a multisite design involving four State Junior High Schools in Simeulue Regency. Data was collected through interviews, observations, and documentation, and validated by source and method triangulation techniques. Data analysis is carried out through the stages of data reduction, data presentation, and drawing conclusions. **Results:** The results of the study show that the implementation of integrative management of school facilities and infrastructure has been carried out systematically and collaboratively, so that it has a positive impact on student learning comfort, teacher professionalism, and learning effectiveness. The improvement was achieved through the successful implementation of five management functions systematically through planning, procurement, structuring, utilization, and maintenance that ran in one integrated cycle as the basis of the proposed model. **Novelty:** This research produces a new integrative management model that combines education system theory with the principle of Total Quality Management (TQM), emphasizing collaboration, accountability, and local adaptability as the main factors in improving the quality of learning, especially in the context of education in archipelagic areas such as Simeulue Regency.

INTRODUCTION

The development of science and technology in the era of Industrial Revolution 4.0 requires the world of education to continue to transform in order to produce superior, adaptive, and highly competitive human resources. Education is the main instrument for shaping knowledgeable, characterful, and globally competent human beings (Mansilla & Jackson, 2022). Schools, as formal educational institutions, play a strategic role in realizing the goals of national education as mandated in Law Number 20 of 2003 concerning the National Education System, namely, developing the potential of students to become human beings who have faith, piety, noble character, healthy, knowledgeable, capable, creative, and responsible citizens (Masfufah, 2025).

Efforts to improve the quality of education cannot be separated from the availability and management of adequate education facilities and infrastructure. Educational facilities are an important component that support the effectiveness and efficiency of the learning process in schools (Ikram & Kenayathulla, 2023). The Government of Indonesia has established regulations through Government Regulation Number 19 of 2005 concerning National Education Standards and Permendikbudristek Number 22 of 2023 concerning Facilities and Infrastructure Standards, which emphasize that each educational unit is required to have facilities and infrastructure in accordance

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with national standards to ensure the continuity of quality learning. However, the availability of facilities alone does not guarantee an improvement in the quality of education if it is not accompanied by a planned and integrated management system (Matarneh et al., 2022).

Various studies show that the effectiveness of learning in schools is highly dependent on how these facilities and infrastructure are managed (Azzahra, 2024); (Istakri et al., 2024). The management process, which includes planning, procurement, arrangement, use, maintenance, and disposal, must be conducted professionally to support the success of learning. In reality, many educational units still face obstacles in the management of facilities and infrastructure, such as suboptimal maintenance, budget limitations, and weak coordination between schools (Junandar & Saputra, 2025). This condition has an impact on the low comfort of the learning environment, decreased student motivation, and lack of an optimal learning process.

This phenomenon has occurred in a number of public junior high schools in the Simeulue Regency, Aceh Province. Although most schools already have adequate educational facilities, their utilisation and management have not been fully effective yet. Various obstacles exist, such as a lack of strategic planning in procurement, weak maintenance systems, and the absence of an integrated management mechanism involving school principals, teachers, education personnel, and education offices. Consequently, existing facilities and infrastructure have not optimally contributed to improving the quality of learning.

Previous studies, such as those conducted by (Soleha et al., 2025), reviewed the management of educational facilities and infrastructure in various school contexts. However, most of these studies still highlight aspects of the implementation of management functions separately and have not developed a conceptual model that integrates all management functions into one complete and applicable system. However, few studies have emphasised the development of integrative models of school facilities and infrastructure management as a strategy to improve the quality of learning at the regional level, especially in archipelago areas such as Simeulue, which have unique geographical characteristics and resources.

Based on these gaps, this study focuses on developing an integrative model approach to the management of school facilities and infrastructure that emphasises the integration of management functions (planning, procurement, regulation, use, and elimination) with the dimension of learning quality. This model is expected to make a theoretical contribution to the development of education management science and provide practical benefits for schools and local governments in creating an effective, efficient, and sustainable infrastructure-management system. Thus, this study seeks to present an alternative management model that can improve the quality of learning through synergy between educational components in Simeulue Regency.

In addition, Simeulue's uniqueness as an archipelago presents its own managerial challenges, which significantly shape the proposed integrative model design. Limited access between islands, dependence on sea transportation, and potential delays in the process of procuring learning facilities due to weather and logistical conditions require a management approach that is not only integrative but also adaptive and resilient to geographical limitations. The typical conditions of these islands directly affect how planning, procurement, and maintenance functions are organised and synergised

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between schools so that the model developed reflects systemic integration as well as responsiveness to the reality of education in remote and geographically separated areas.

Theoretical Framework

Management of Educational Facilities and Infrastructure

The management of educational facilities and infrastructure is an important subsystem in education management that effectively, efficiently, and sustainably supports the continuation of teaching and learning activities. Bafadal (2016) stated that facilities and infrastructure management includes the process of planning, procurement, distribution, use, maintenance, and elimination of educational facilities to support the achievement of learning goals. From a perspective (Kompri, 2017), good management of facilities and infrastructure must be oriented towards the efficiency of resource use, sustainability of educational services, and comfort of the learning environment.

The process of managing facilities and infrastructure follows a systematic managerial cycle: planning, procurement, arrangement, use, maintenance, and disposal. Each stage has a function and relationship that strengthens each other. Planning functions to analyse the needs of educational facilities based on the curriculum and number of students (Gewab et al., 2015). Procurement ensures the availability of facilities according to the priority needs (Jundullah et al., 2025). Arrangements play a role in data collection, arrangement, and supervision (Karima & Khasanah, 2024). Its use ensures optimal utilisation of the facility, while maintenance and removal aim to maintain sustainability and update the facility according to its useful age (Baidowi et al. 2024).

The effectiveness of facility and infrastructure management is determined by stakeholder involvement. School principals play the role of policymakers and quality controllers, teachers as the main users who understand learning needs, administrative staff as inventory and data managers, and education offices as budget providers and regulators. Collaboration between parties is the key to successful school facility management.

Quality of Learning

Learning quality is defined as the level of success of the educational process in achieving the set learning goals (Chambers and Fernandez 2004). According to Mulyasa (2023), the quality of learning includes the dimensions of input, process, and output. The inputs included student readiness, teacher competence, and available facilities. The process includes learning strategies, teacher-student interactions, and classroom climate. Meanwhile, output is related to learning outcomes, which reflect changes in knowledge, skills, and attitudes of the students.

Suaeb (2022) emphasised that the quality of education must be viewed as a continuous process that requires continuous improvement. Therefore, the effective management of educational facilities is an important prerequisite for creating an effective and productive learning process. Adequate facilities increase student comfort, concentration, and participation in learning activities, which ultimately has a positive impact on learning outcomes and teacher professionalism.

Thus, the quality of learning does not only depend on the teacher's ability or teaching strategy but is also greatly influenced by the availability and management of facilities and infrastructure. A well-organized learning environment, well-functioning

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equipment, and comfortable classrooms are important elements for improving students' learning motivation and academic performance.

The Relationship between Facilities Management and Learning Quality

The relationship between facility management and learning quality can be understood using an educational system approach. Salam (2015) explains that the education system consists of four main components: input, process, output, and feedback. Facilities and infrastructure are included as inputs that affect the learning process. Good management of facilities and infrastructure will produce an effective, efficient, and meaningful learning process, which ultimately improves the quality of student learning outcomes.

Research by Martini et al. (2024) and Handayani and Hidayat (2025) shows that the performance of facilities and infrastructure management has a significant influence on the quality of learning in secondary schools. Factors such as the involvement of school principals, teacher participation in management, and regional policy support have proven to be the main determinants of successful management implementation that has an impact on improving the quality of learning. Therefore, an integrative and collaborative management approach is required to ensure that all functions operate synergistically.

Integrative Model of School Facilities and Infrastructure Management

The integrative model approach in facilities and infrastructure management is intended to combine all the management functions into a single interconnected system of cycles. This model is based on the principles of Planning, Organizing, Actuating, Controlling (POAC) in research (Maduretno & Fajri, 2019) and then adapted to the context of education management. This approach emphasizes the integration of planning, implementation, and control as a single unit oriented towards improving the quality of learning.

The proposed integrative model views infrastructure management not only as an administrative activity but also as a dynamic system that involves inputs (educational resources), processes (management functions), outputs (efficiency of use), outcomes (improvement of learning quality), and feedback (evaluation and supervision). Each component interacts in a continuous cycle to improve the quality of education.

The principal plays the role of the leader and controller, ensuring that each stage of management runs as planned. Teachers play the role of users and evaluators who provide feedback on the effectiveness of facility use. The education office plays the role of a regulator and supervisor who ensures policy sustainability and budget support. This multi-stakeholder collaboration creates a management system that is based on the real needs of the school.

Conceptual Framework of Integrative Models

Based on the synthesis of theories and empirical findings, a conceptual framework for an integrative model of school facilities and infrastructure management was prepared, as shown in Figure 1.

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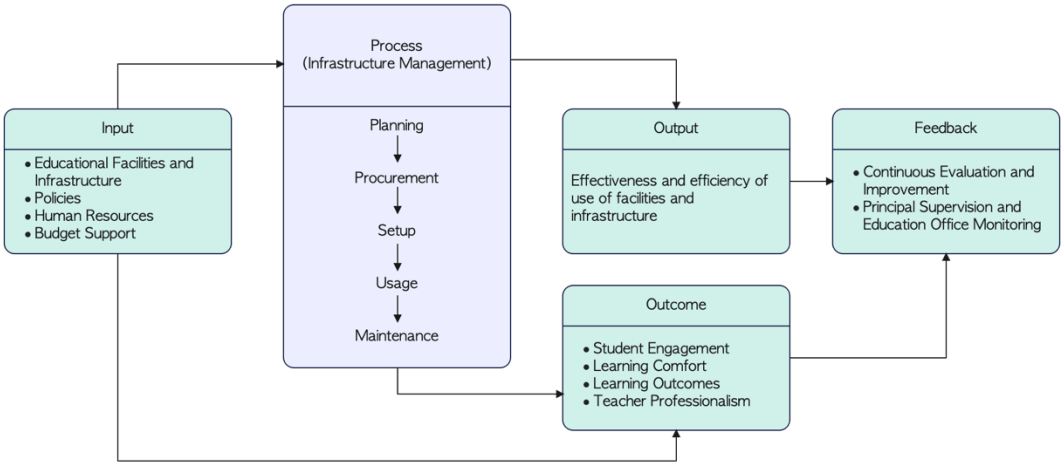

Figure 1. Conceptual Framework of Integrative Model of School Facilities and Infrastructure Management

Figure 1 explains that:

1. The inputs consist of educational infrastructure, policies, human resources, and budget support.
2. The process includes the execution of the following management functions: planning, procurement, arrangement, use, and maintenance.
3. The output is in the form of effectiveness and efficiency of the use of facilities.
4. The outcomes include improving the quality of learning through student involvement, learning comfort, learning outcomes, and teacher professionalism.
5. Feedback is in the form of evaluation, supervision, and continuous improvement from the school principals and education offices.

This cycle forms a system oriented towards improving the quality of learning through the integration of management functions and collaboration between education actors. Thus, this integrative model is expected to become a conceptual guideline for the development of effective facility management policies and practices in educational units, especially in the Simeulue Regency.

In addition, the concept of Total Quality Management (TQM) is a philosophical foundation that strengthens the system approach in this integrative model. The principle of continuous improvement in TQM is in line with the feedback cycle in education management, so that every stage of planning, procurement, structuring, utilization, and maintenance is carried out with reflective evaluation and continuous improvement. Through this alignment, the integrative model not only functions as a managerial system, but also as a dynamic organizational learning process to continuously improve the quality of education. In the context of archipelagic areas such as Simeulue, this principle is particularly relevant because adaptation and continuous improvement are needed to overcome geographical and logistical challenges in the management of school facilities and infrastructure.

RESEARCH METHOD

A. Approaches and Types of Research

This study uses a descriptive qualitative approach to understand how the management process of facilities and infrastructure is carried out to improve the quality

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of learning in schools. This approach was chosen because it allows researchers to describe the phenomenon of managing facilities and infrastructure naturally, comprehensively, and based on the direct experience of educational actors.

According to Creswell and Poth (2016), qualitative research focuses on interpreting the meaning of actions, policies, and social interactions, making it relevant to examine complex education management systems such as school infrastructure management.

B. Location and Research Subject

The research was carried out in Simeulue Regency, Aceh Province, with a focus on four State Junior High Schools (SMPN) that were selected purposively. The selection of this location takes into account the representation of geographical conditions, educational facilities, and diversity in the implementation of school management. The research subjects can be seen in Table 1.

Table 1. Research Subject

No.	Category	SMPN 2 Simtim	SMPN 1 Tepteng	SMPN 1 Teubar	SMPN 1 Simteng	Sum
1	Principal	1	1	1	1	4
2	Vice Principal for Facilities	1	1	1	1	4
3	Head of Library	1	1	1	1	4
4	Teacher	1	1	1	1	4
5	Staff Administrators	1	1	1	1	4
Sum		**5**	**5**	**5**	**5**	**20**

Note: SMPN is a state junior high school

The purposive sampling technique was used so that the selected informants really understood the management process and were able to provide relevant information to the research problem.

C. Data Sources and Types

The data used in this study consisted of primary and secondary data. Primary data were obtained through in-depth interviews with the main informants, direct observations of infrastructure management activities, and documentation in schools. Secondary data in the form of school policy documents, goods inventory reports, school work plans (RKS), and data from the Simeulue Education Office. The collected data are narrative descriptive, including facts, opinions, and interpretations related to the implementation of facilities and infrastructure management functions.

D. Data Collection Techniques

Data collection in this study was carried out systematically and in layers using several main techniques, namely, in-depth interviews, participatory observations, and documentation. These three techniques were chosen to gain a comprehensive understanding of the management practices of school facilities and infrastructure and their relationship with the quality of learning.

An in-depth interview technique was used to explore information exploratively from key informants, consisting of school principals, teachers, and administrative staff. The interviews were conducted in a semi-structured manner so that the researcher was

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flexible in exploring managerial issues that arise during the conversation. Each interview session was recorded with the consent of the informant and transcribed verbatim to maintain the integrity of qualitative data. This approach is in line with the view (Kvale & Brinkmann, 2009) that qualitative interviews aim to understand the meaning of phenomena from the perspective of participants. In this research, their approach was applied by focusing the conversation on how school actors perceive and interpret each management function planning, organizing, actuating, and controlling (POAC)—in managing educational facilities, ensuring that the interviews remained centered on the facility management process rather than general school activities.

The participatory observation technique was used to obtain empirical data on the factual condition of facilities and infrastructure, as well as their management processes in the school environment. Specifically, the researcher observed the entire management cycle, including planning meetings, maintenance activities, facility usage during teaching hours, and inventory recording in administrative offices. The researcher acted as an active observer in the planning, use, and maintenance of school facilities. Observations were carried out using observation guidelines so that the recording process was directed and consistent. Through these observations, researchers can verify the correspondence between informants' statements and reality in the field, as recommended by Spradley (2016), whose concept of participant observation was applied to understand the behavioral patterns and coordination among school actors during each stage of facility management.

Documentation techniques were used to complement and confirm the findings of interviews and observations. The documents analyzed included School Work Plans (RKS), inventory reports, facility maintenance archives, photos of activities, and education office policies related to school facilities and infrastructure. Document analysis provides objective evidence that supports the interpretation of field data and strengthens the validity of the research results.

The combination of these three techniques forms a method triangulation strategy, which aims to increase the credibility and validity of the data. According to (Denzin, 2012), triangulation is an important approach in qualitative research to minimize the subjectivity bias of researchers and strengthen the reliability of data interpretation. Thus, the data collection technique in this study not only serves as a technical procedure but also as a scientific mechanism to ensure the depth, accuracy, and integrity of the research results.

E. Data Analysis Techniques

Data analysis was carried out simultaneously with the process of collecting data in the field using an interactive model (Huberman, 2019), which consists of three main components:

1. Data reduction is the process of selecting, focusing, and simplifying data from interviews, observations, and documentation, in accordance with the research focus.
2. Data presentation (data display) was carried out through the creation of a matrix (narrative and table) that maps the relationship between the stages of facility management and improvement of learning quality.
3. Conclusion drawing and verification are carried out on an ongoing basis to identify patterns, causal relationships, and integrative models formed from the results of field findings.

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In addition, the coding process is carried out systematically to develop themes from the transcribed interview data. The analysis begins with open coding to identify the main concepts that emerge from the informant's statements, then continues with axial coding to connect interrelated categories between schools and form the main themes that represent the functions of integrative management. This coding process ensures that the stages of data reduction, data presentation, and conclusion drawing in an interactive model (Huberman, 2019) are based on strong empirical patterns, thereby increasing the credibility and transparency of qualitative analysis.

F. Data Validity

To ensure the validity of the research results, the sources and methods were triangulated. Source triangulation was performed by comparing information from school principals, teachers, and administrative staff. The triangulation method was carried out by comparing the results of the interviews, observations, and documentation. In addition, member checks were carried out on the main informants to ensure the correctness of data interpretation.

This technique is in line with Sugiyono's (2020) view that validity in qualitative research lies in the consistency of the researcher's interpretation of the reality observed in the field.

RESULTS AND DISCUSSION

Results

This research was conducted in four State Junior High Schools in Simeulue Regency: SMPN 1 Simeulue Tengah, SMPN 1 Teupah Barat, SMPN 1 Teupah Tengah, and SMPN 2 Simeulue Timur. The results show that the implementation of facilities and infrastructure management in supporting the quality of learning has been carried out through five main functions: planning, procurement, regulation, use, elimination, and maintenance.

A. Planning of Educational Facilities and Infrastructure at SMPN Simeulue Regency

The planning of educational facilities and infrastructure in the State Junior High Schools (SMPN) of Simeulue Regency is conducted systematically, participatively, and oriented toward improving learning quality. This process represents the Planning function within the POAC framework and aligns with the Total Quality Management (TQM) principle of continuous improvement, ensuring that planning activities are not only administrative but also reflective and data-driven.

1. Accommodating Procurement Proposals

The first stage of planning involves accommodating all procurement proposals from various school units—teachers, laboratory heads, library coordinators, and administrative staff. The process reflects participatory management and inclusiveness in decision-making.

As the principal of SMPN 1 Simeulue Tengah (Mr. SF) stated:

> *"When planning infrastructure facilities, I will start by taking into account the procurement requests needed by teachers, administration, library heads, and laboratory heads."*

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This quotation illustrates that planning is initiated from the bottom up, ensuring that every proposal genuinely addresses instructional needs. The approach reinforces collaboration and ownership among staff, thus enhancing the relevance of facilities planning to actual learning conditions.

2. Inventory of Facility Shortages

The second stage concerns systematic inventorying of shortages to identify gaps between existing and required facilities. According to a teacher, Mrs. AS:

> "*Because infrastructure is one of the factors that support the quality of learning, we always strive to complete infrastructure facilities by inventorying the shortage of school supplies.*"

Another staff member, Mrs. DW, added:

> *"The inventory of the lack of completeness of infrastructure facilities is carried out by each work unit, which will then be used as a procurement proposal."*

These statements confirm that inventorying serves as both a technical and strategic process laying a factual foundation for subsequent budgeting and procurement. This phase is particularly vital in the archipelagic context of Simeulue, where logistical constraints make proactive inventory management essential.

3. Developing Short and Long Term Needs Plans

After the inventory, the schools prepare both short-term and long-term needs plans. As explained by Mrs. AS:

> *"We have prepared a plan for the needs of Sarpras with two time periods, namely long-term and short-term."*

Mrs. US elaborated on the procedures:

> *"The first step in making a plan for school equipment needs is to make a list of school infrastructure facilities that are adjusted to the needs and school plans on a monthly basis... and after that, an annual plan is made."*

These remarks show that planning is performed through sequential analysis monthly, quarterly, and annually allowing continuous alignment between needs, curriculum objectives, and available resources. This multilevel planning reflects continuous improvement in the TQM cycle.

4. Aligning the Plan with Existing Facilities

At this stage, the proposed needs are cross-checked against the school's current facilities to prevent redundancy. Principal Mrs. HK emphasized:

> "*Of course, the needs plan that has been prepared or made will be checked first and adjusted to the existing equipment… The work unit will first conduct a needs analysis to support the quality of learning before making a needs plan.*"

Similarly, Mr. SF confirmed:

> *"If the equipment prepared is available, the needs plan will be revised again according to the necessary facilities."*

These statements reveal an internal verification mechanism ensuring that procurement focuses on genuinely unmet needs. This practice embodies managerial

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rationality and efficient resource use critical considerations in geographically isolated island schools where replacement logistics are costly and time-consuming.

5. Adjusting the Plan to the School Budget

The fifth stage involves reconciling the list of prioritized needs with available funding sources such as BOS grants or local-government assistance. Principal Mr. SF explained:

> *"Yes, the needs plan that has been prepared will be adjusted to the available budget or funds… If it still exceeds the available budget, then it is necessary to make another selection by making a priority scale."*

This reflects prudent financial management in line with the TQM principle of efficiency. Through deliberation, the management team categorizes expenditures based on urgency and pedagogical significance, ensuring accountability and sustainability of the budget.

6. Establishing the Final Procurement Plan

The final stage consolidates all verified proposals, inventories, and budget considerations into an approved procurement plan. As described by Principal Mrs. HK:

> *"The final plan will be decided after accommodating all the necessary equipment proposals, inventorying equipment shortages, making a needs plan for a certain period of time, adapting the plan to pre-existing equipment, and adapting the plan to the available budget."*

This cumulative process demonstrates an evidence-based and collaborative approach to decision-making. The finalized plan serves as a formal reference for the School Work Plan (RKS) and School Activity and Budget Plan (RKAS), ensuring traceability and alignment between planning and implementation.

Table 2. Summary of Findings on the Planning Stag

Planning Stage	Key Activities	Direct Evidence (Quotation)	Core Managerial Principle
Accommodating Proposals	Gathering requests from all units	"When planning infrastructure facilities, I will start by taking into account the procurement requests…"	Participatory & inclusive planning
Inventorying Shortages	Identifying existing gaps	"We always strive to complete infrastructure facilities by inventorying the shortage of school supplies."	Data-driven & preventive management
Preparing Needs Plans	Short- and long-term formulation	"We have prepared a plan for the needs of Sarpras with two time periods…"	Sustainability & continuous improvement
Aligning with Existing Facilities	Adjusting needs to available resources	"The needs plan… will be checked first and adjusted to the existing equipment."	Resource efficiency & accountability
Adjusting to Budget	Prioritizing based on funding	"If it still exceeds the available budget, then it is necessary to make another selection…"	Financial rationality & prioritization
Establishing Final Plan	Consolidation and approval	"The final plan will be decided after accommodating all the necessary equipment proposals…"	Evidence-based & collaborative decision-making

The planning of educational facilities and infrastructure at SMPN Simeulue Regency illustrates a participatory, data-driven, and adaptive process that aligns with both POAC and TQM frameworks. Each stage from proposal accommodation to final approval

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demonstrates a feedback-oriented cycle of planning, verification, and refinement, embodying the principle of continuous improvement essential for schools operating within an archipelagic region. This integrative approach ensures that the limited resources available are utilized effectively to enhance learning quality, teacher professionalism, and the overall sustainability of educational management in Simeulue.

B. Procurement of Educational Facilities and Infrastructure

The process of procurement of facilities and infrastructure is a very important advanced stage after planning because the results of planning are the main reference in ensuring the accuracy between needs and procurement realization. Based on the results of observations in several State Junior High Schools in Simeulue Regency, the procurement of facilities and infrastructure to support the quality of learning is carried out through two main mechanisms: procurement through assistance (dropping) from the government and procurement through direct purchase by schools. This procurement process is a challenge in itself because schools must ensure that what has been planned is in accordance with the real needs in the field.

In its implementation, the school has various elements that are directly related to the use of facilities and infrastructure, such as principals, teachers, treasurers, and administrative staff. Because the Simeulue Regency State Junior High School is a public school, the entire procurement process is carried out independently by the school in accordance with government regulations. The results of the interviews showed that most of the procurement was obtained from dropping or government assistance, both from the local government and the Ministry of Education. Assistance is generally in the form of main learning facilities, such as ICT devices, tables, chairs, and laboratory equipment.

In addition to government assistance, schools are also procured through direct purchase. This was explained by Mr. SF as the principal who stated that

> "*In addition to receiving assistance, we also buy for the procurement of infrastructure. For facilities that are used, ATK, cleaning tools, and others, we buy at the store and pay using the BOS budget. For facilities that are used for a long period of time, especially capital expenditure, we buy through the SIPLah application.*"

This explanation shows that procurement is performed by adjusting the type of need. Consumables such as office stationery (ATK) and cleaning tools are purchased directly at local stores using School Operational Assistance (BOS) funds, whereas long-term capital goods such as computers, printers, and projectors are purchased through the School Procurement Information System (SIPLah) application in accordance with the Ministry of Education regulations.

A similar observation was expressed by Mrs. DW, the principal of another school, who added the following:

> "*We also make purchases for procurement. We buy in stores for disposable means such as paper, markers, and pens. For the purchase of facilities that are used for a long time such as capital expenditure, we adjust it to the available budget.*"

Both statements show that schools have applied the principles of flexibility and efficiency in procurement management by adjusting the type and mechanism of procurement according to the urgency of needs and budget availability. Based on the results of observations, interviews, and documentation analysis, it can be concluded that

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the procurement of facilities and infrastructure at Simeulue Regency State Junior High School is carried out through two main patterns:

1) Procurement through drop-off or assistance from the central and regional governments, and
2) Procurement through direct purchase for short-term and long-term needs.

For short-term procurement, schools use BOS funds to meet routine operational needs, such as stationery and cleaning, while for long-term procurement, which is investment or capital expenditure, schools adjust to budget capabilities and priority needs. Thus, the mechanism for the procurement of facilities and infrastructure at the State Junior High School of Simeulue Regency reflects the implementation of transparent, efficient, and adaptive management to regulations and the need for continuous learning.

C. Arrangement of Educational Facilities and Infrastructure at SMPN Simeulue Regency

After the procurement stage, the next management function is the arrangement of facilities and infrastructure, which includes inventory, storage, and maintenance. Based on the results of observations and interviews, the arrangement activities at the Simeulue Regency State Junior High School were carried out systematically to ensure that the facilities and infrastructure they have can be used optimally to support the quality of learning.

1. Inventory

The first step involves recording all educational equipment and facilities owned by the school to maintain accountability and accurate asset data. The inventory process includes registering, coding, and reporting each item in accordance with administrative standards. As one respondent explained:

> *"Making a list or inventory of every equipment owned by the school is one of the tasks in managing educational equipment in schools."*

This systematic approach ensures traceability of all resources, supports accurate reporting, and enables the school to plan future needs more effectively.

2. Storage

After the inventory is completed, facilities and equipment are stored in a safe and organized manner to maintain their usability and longevity. Items are categorized based on usage frequency, with frequently used equipment placed in accessible locations. As stated by one principal:

> *"We try to store tools and equipment in a safe place clean, well-ventilated, and adequate so that they last and can be used for a long time."*

This structured storage method prevents damage, reduces clutter, and allows efficient retrieval, reflecting the TQM emphasis on preventive management and operational efficiency.

3. Maintenance

The final stage is maintenance, which involves regular inspection, cleaning, and repair to ensure that facilities remain functional and ready for use. Preventive maintenance is carried out periodically, while corrective maintenance is conducted when damage occurs. One respondent emphasized:

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"We carry out checks to ensure that supplies and infrastructure facilities are maintained, not damaged, and ready to use."

Routine maintenance activities such as weekly cleaning and periodic refurbishment demonstrate the school's commitment to sustaining facility quality and ensuring a safe, comfortable learning environment.

Table 3. Summary of Arrangement Findings

Stage	Main Activity	Representative Quotation	Core Management Focus
Inventory	Recording, coding, and reporting facilities	"Making a list or inventory of every equipment owned by the school…"	Accountability & documentation
Storage	Organizing and protecting equipment	"We try to store tools and equipment in a safe place…"	Efficiency & preventive organization
Maintenance	Regular inspection and repair	"We carry out checks to ensure that supplies and infrastructure facilities are maintained…"	Continuous improvement & reliability

The arrangement of educational facilities and infrastructure at SMPN Simeulue Regency reflects a disciplined and participatory management practice rooted in POAC's Organizing function and TQM principles. Through accurate inventory, systematic storage, and regular maintenance, schools in Simeulue effectively manage their limited resources while sustaining the quality and readiness of learning facilities. Despite logistical and personnel limitations inherent in archipelagic regions, the schools' structured organization and commitment to continuous improvement ensure that facilities remain functional and supportive of educational quality.

D. Utilization of Educational Facilities and Infrastructure at SMPN Simeulue Regency

The utilization of educational facilities and infrastructure in the State Junior High Schools (SMPN) of Simeulue Regency demonstrates a structured effort to ensure that all available resources directly support teaching and learning activities. This stage reflects the Actuating function within the POAC framework and applies the Total Quality Management (TQM) principle of optimizing available resources to enhance learning quality.

1. Scheduling of Facility Usage

The schools implement a clear scheduling system to avoid overlap in the use of shared facilities such as laboratories, workshops, and sports fields. Schedules are arranged separately for each class to ensure that every learning group has equitable access and focused instructional time. As noted by one vice principal:

"The use of infrastructure to support the quality of learning, such as science laboratories and sports fields, uses schedules so that there are no collisions between classes."

This indicates a well-planned operational system ensuring that physical resources are utilized effectively to maximize learning comfort and efficiency.

2. Prioritizing Learning Activities

Learning activities are positioned as the primary priority in the use of all facilities. Every resource allocation decision is guided by its relevance to instructional objectives. A school principal stated:

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"Learning activities are the main activities that are very important; complete infrastructure facilities and good management will continue to support quality learning."

This reflects a management philosophy centered on the educational mission, where facility use aligns with pedagogical outcomes and student engagement.

3. Annual Scheduling and Coordination

Based on the results of the interview with Mr. SF, information was obtained on the timing and schedule for the use of infrastructure facilities at the beginning of the school year. He stated that:

"At the beginning of the school year, a schedule is made for the use of infrastructure facilities such as laboratories and sports fields so that these facilities and infrastructure can be used as much as possible for learning activities. Arrange the schedule of activities and the use of infrastructure at the beginning of the school year so that future learning activities are more comfortable and do not collide between classes."

From the results of the two interviews, it can be concluded that at the Simeulue Regency State Junior High School, the schedule for the use of facilities and infrastructure, such as laboratories, workshops, and sports fields, is prepared or submitted at the beginning of the new school year. This policy aims to maximize the use of learning facilities, create comfort in the teaching and learning processes, and avoid overlapping use between classes.

4. Assignment or appointment of personnel

Furthermore, regarding the use of facilities and infrastructure, Mrs. DW explained the following:

"The placement of the person in charge at this school is still not in accordance with the field. This is due to the lack of qualified human resources (HR) for this position. We always try our best to take advantage of existing infrastructure to support the quality of learning in our schools. Due to the lack of qualified personnel, officers for general infrastructure facilities were handed over to the sarpras staff, assisted by teachers, while the infrastructure facilities in car and motorcycle workshops were handed over to the head of the workshop and the head of the study program. The infrastructure facilities in the salon are handed over to the head of the study program and vocational teachers, while the officers in the library and UKS are still assisted by general teachers."

Based on this explanation, it can be seen that one of the obstacles faced by the Simeulue Regency State Junior High School is the limitation of human resources, who have competence in accordance with the field of facilities and infrastructure management. The placement of officers or persons in charge is still not fully in accordance with their qualifications or areas of expertise. The management of public infrastructure facilities is carried out by sarpras staff with the help of teachers, while the responsibility for facilities in workshops and salons is handed over to the head of the study program and vocational teachers. The management of libraries and UKS still involves general teachers as support staff members. Nevertheless, the school still makes maximum efforts to utilize the available facilities and infrastructure to support continuous improvement in the quality of learning.

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5. Scheduling the use of infrastructure between intracurricular and extracurricular activities

Based on the results of the interview with Mrs. HK, the management of the use of facilities and infrastructure at the State Junior High School of Simeulue Regency also includes intracurricular and extracurricular activities. He stated that:

> "*The use of infrastructure facilities for intracurricular and extracurricular activities is also scheduled. Due to the absence of a field for badminton sports activities, there are several extracurricular activities outside school. We carry out extracurricular badminton outside of school.*"

The statement shows that the school arranged a planned schedule for the use of facilities and infrastructure to support both types of activities. However, limited facilities, especially the sports field, cause extracurricular activities to be carried out outside the school environment. Extracurricular sports activities such as badminton, for example, are carried out by renting a certain location at a predetermined time so that coaching activities continue to run optimally.

Based on the results of observations, interviews, and documentation, it can be concluded that the management of the use of facilities and infrastructure at Simeulue Regency State Junior High School is carried out through several strategic steps. First, the schedule for the use of facilities such as science laboratories and sports fields was carried out so that there were no clashes between classes. Second, the submission of the schedule was carried out at the beginning of the school year as a form of systematic planning. Third, the main priority of using facilities and infrastructure is learning activities, while extracurricular activities also have a clear schedule arrangement.

However, the placement of officers in charge of facilities and infrastructure is still not fully in accordance with their field of expertise, because of the limited number of competent human resources. Despite these obstacles, schools still strive to maximize the use of available facilities and infrastructure to support continuous improvement in the quality of learning.

Tabel 4. Summary of Utilization Findings

Focus Area	Management Practice	Representative Quotation	Core Principle
Scheduling	Timetable for laboratories and sports fields	"The use of infrastructure... uses schedules so that there are no collisions between classes."	Efficiency & coordination
Priority of Learning	Learning prioritized over other uses	"Learning activities are the main activities that are very important…"	Pedagogical alignment
Annual Planning	Yearly schedules for all activities	Internal coordination at start of school year	Sustainability & predictability
Personnel Assignment	Staff and teachers as facility coordinators	Shared responsibility among limited HR	Collaboration & adaptability
Integration	Facilities used for intra- and extracurriculars	Joint scheduling to avoid overlap	Inclusivity & balanced utilization

The utilization of educational facilities and infrastructure at SMPN Simeulue Regency exemplifies an operationally disciplined, participatory, and adaptive system. Through scheduled usage, learning-centered prioritization, and collaborative responsibility, schools have successfully maximized limited infrastructure to sustain the quality of teaching and learning. Although human resource limitations remain a challenge, the

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effective coordination of facility use demonstrates a strong culture of efficiency, accountability, and continuous improvement, fully aligned with the POAC Actuating function and TQM philosophy of educational excellence.

E. Elimination of Educational Facilities and Infrastructure of State Junior High School Simeulue Regency

Based on the results of the researcher's observations at the Simeulue Regency State Junior High School, the process of eliminating facilities and infrastructure was carried out through several planned stages as part of efforts to support the improvement of learning quality. The stage begins with the selection of goods, which is carried out every year along with the process of planning the needs of facilities and infrastructure. Furthermore, an assessment of the economic value of the goods to be removed is conducted to minimize potential losses for the school.

1. Maintenance of goods carried out annually at the same time as estimating needs

The first procedure in the elimination of facilities and infrastructure at Simeulue Regency State Junior High School is the selection of goods to be removed. Based on the results of the interview with Mrs. AS, the following was explained:

> "*At the same time estimating the needs, we also choose which equipment to remove. Facilities and infrastructure may need to be removed for a number of reasons, including obsolete or severely damaged equipment that cannot be restored or reused.*"

This statement shows that the selection of goods to be removed is carried out routinely every year along with the process of planning for facilities and infrastructure needs. Removal is carried out based on consideration of the physical and functional condition of the goods, especially if the equipment has been severely damaged, obsolete, or cannot be repaired or reused. Thus, this step is an important part of maintaining the efficiency of the use of school resources and ensuring that the available facilities and infrastructure remain relevant and support the optimal implementation of learning activities.

2. Economic Considerations in Reviewing Items for Elimination

In eliminating facilities and infrastructure, economic value becomes a crucial consideration to avoid financial losses.

Mrs. AS stated:

> *"Of course, to avoid losses, consideration of the value of money must be made for the elimination of infrastructure. One of the considerations is that repairs will be expensive, and goods whose technical and economic use are not balanced with maintenance costs."*

This was confirmed by Mrs. HK, who added:

> *"One of the factors that is taken into account is that if repairs are made, it will cost a lot, and goods whose technical and economic usefulness is not balanced with the cost of maintenance will be included in the list of elimination."*

These testimonies show that schools use cost–benefit analysis when determining which items to remove, prioritizing the elimination of assets that are technically and economically inefficient to maintain.

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3. Planning for Elimination

The elimination process begins with structured planning based on an analysis of the condition of each facility.

Mrs. DW explained:

"Elimination planning is carried out to determine which means will be removed. Removal planning is carried out after an analysis of what equipment will be removed."

Mrs. HK elaborated:

"There are several reasons that must be considered to remove facilities and infrastructure, such as equipment that is old or severely damaged, so that it can no longer be repaired or used. The facilities are no longer in accordance with current needs. Excess items, if stored for longer, will become more damaged and no longer used. Stolen, burned, destroyed as a result of natural disasters."

This stage ensures that decisions are data-driven and rational, emphasizing damage level, obsolescence, and contextual factors such as disaster or theft.

4. Preparation of Notification Letter

After planning, schools prepare an official notification letter addressed to the principal.

Mrs. AS stated:

"Yes, the notification letter in the deletion contains what means will be deleted. Based on the elimination plan that has been prepared, the next stage is to make a notification letter submitted to the principal."

The notification letter details the inventory number, quantity, and condition of items to be removed, ensuring transparency and documentation integrity.

5. Implementation through Incineration

The physical elimination of items is carried out through controlled incineration of goods deemed beyond repair.

Principal Mr. SF noted:

"Yes, arson is carried out on certain facilities or equipment that are severely damaged and cannot be used. Of course, we will burn after analyzing the facilities to be removed, then the selected facilities such as severely damaged chairs will be burned."

This step prevents the accumulation of non-functional goods, optimizes storage space, and maintains a clean, efficient school environment.

6. Supervision by Superiors

All elimination procedures are carried out under direct supervision of school superiors to ensure accountability.

Mrs. AS explained:

"Superiors always witness the removal process, and school administrators are given written notice. Each removal activity is accompanied by a notification letter, and every removal activity is witnessed to ensure that the removal can be properly accounted for."

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This supervision guarantees procedural compliance and reinforces the school's commitment to transparency and ethical governance.

7. Preparation of Minutes

The final step involves preparing official minutes of elimination as evidence of accountability.

Mrs. AS stated:

"*We also make minutes so that the removal activities can be recorded properly. After the deletion is carried out, the minutes are made.*"

Mrs. HK confirmed:

"*In addition to the notification letter, we also made a minutes so that the elimination activities can be accounted for.*"

The minutes include the date, list of deleted items, inventory numbers, and quantities, signed by the facilities management officer and approved by the principal, completing the administrative documentation.

Table 5. Summary of the Elimination Process

Stage	Key Activity	Representative Quotation	Core Management Focus
Maintenance and Annual Selection	Annual review of assets alongside needs planning	"At the same time estimating the needs, we also choose which equipment to remove."	Preventive asset control & efficiency
Economic Considerations	Cost–benefit analysis before elimination	"Consideration of the value of money must be made for the elimination of infrastructure."	Financial rationality & accountability
Planning	Analysis of condition and relevance	"Elimination planning is carried out to determine which means will be removed."	Data-driven decision-making
Notification	Preparing an official elimination letter	"The notification letter… is submitted to the principal."	Administrative transparency
Implementation	Controlled burning of damaged items	"Arson is carried out on certain facilities or equipment that are severely damaged."	Environmental order & efficiency
Supervision	Oversight by school authorities	"Superiors always witness the removal process."	Procedural integrity
Minutes	Preparation of final elimination record	"We also make minutes so that the removal activities can be recorded properly."	Legal accountability & documentation

The elimination of educational facilities and infrastructure at Simeulue Regency's State Junior High Schools is conducted through seven integrated stages, ensuring efficiency, legality, and transparency. Each stage from annual maintenance and economic evaluation to planning, implementation, and documentation demonstrates the schools' adherence to POAC controlling principles and TQM values of efficiency, accountability, and continuous improvement. This systematic approach allows schools to sustain the functionality and relevance of their facilities, ensuring that all resources effectively support the enhancement of learning quality across the archipelagic context of Simeulue.

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F. Management of Educational Facilities and Infrastructure to improve the quality of learning at the SMPN Simeulue Regency.

The management of facilities and infrastructure at Simeulue Regency State Junior High School is carried out to manage and maximize the use of educational facilities to support a quality learning process. Schools always strive to improve the quality of education through the provision of adequate facilities and infrastructure because the completeness of facilities has proven to play an important role in creating an effective and efficient teaching and learning process. The observation results showed that the availability of facilities such as projectors, computers, and learning aids was helpful for teachers in delivering material and making it easier for students to understand the concepts being taught. The use of digital media also increases student enthusiasm and participation in learning activities.

The success of the management of facilities and infrastructure in schools can be seen from the improvement of learning comfort, effectiveness of material delivery, and academic achievements of teachers and students. With the implementation of management functions that include planning, procurement, arrangement, use, maintenance, and disposal, schools can make optimal and sustainable use of educational resources. The compatibility between the management of facilities and learning quality indicators, including relevance, attractiveness, effectiveness, efficiency, and productivity, shows that each stage of management significantly contributes to the achievement of educational goals. Thus, good management of facilities and infrastructure at Simeulue Regency State Junior High School has become one of the key factors in improving the quality of learning and supporting the achievement of the school's vision and mission.

G. Obstacles in the management of educational facilities and infrastructure to improve the quality of learning in state junior high school site regency.

Based on the results of interviews and field observations, it was found that one of the main obstacles in the management of facilities and infrastructure at the Simeulue Regency State Junior High School is the limited cost available to support all management activities at the planning, procurement, and maintenance stages. This condition is a challenge, considering that the need for educational facilities and infrastructure continues to increase in line with the demands of learning quality. Limited funding has implications for delays in the fulfillment of optimal learning facilities. This is in line with the findings of the interviews, which show that financial factors are one of the important elements that determine the smooth management process of facilities and infrastructure. Although schools already have dedicated budget allocations for the management of educational facilities, the actual needs on the ground often exceed the available funding capacity.

In addition to the problem of cost, another obstacle faced by schools is the low awareness of students in maintaining educational facilities and infrastructure. Based on the results of an interview with the deputy principal regarding facilities and infrastructure, it is known that some students still lack a sense of responsibility for school facilities, such as classroom cleanliness, park sustainability, and maintenance of learning equipment. This low awareness has an impact on the damage to facilities that should still be usable in the long term.

To overcome these problems, schools must implement several managerial strategies. First, in terms of funding, schools can conduct more effective budget planning by optimizing the priority scale and avoiding expenses that do not support the learning

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process. In addition, schools can look for alternative sources of funding through collaboration with school committees, the business world, and social institutions that are willing to provide assistance in the form of donations to educational facilities or materials. Second, regarding student awareness, increased responsibility can be achieved through educational and collaborative approaches. Schools can collaborate with student devices such as student councils, class leaders, and school environment organizations to hold participation-based activities such as classroom cleanliness competitions, environmental care campaigns, and the creation of pamphlets with the theme of school facility maintenance.

In addition, schools can hold seminars and workshops that foster concerns about the cleanliness and health of the school environment. Students' awareness of maintaining facilities and infrastructure cannot grow instantly but is formed through the example of teachers and a positive school culture. Teachers act as role models for students; therefore, teachers' disciplined behavior, responsibility, and concern for school facilities will be a reflection that is imitated by students. Thus, the formation of the character of caring for facilities and infrastructure must start from the collective awareness of all school residents, especially educators.

Furthermore, based on the results of the analysis using the Strengths, Weaknesses, Opportunities, and Threats (SWOT) method, the conditions of facilities and infrastructure management at Simeulue Regency State Junior High School can be explained as follows:

Strengths:
1) The location of the school is strategic and easy for the community to reach.
2) Educational facilities and infrastructure are relatively complete and well maintained.
3) A network of cooperation among various parties was formed.
4) Educators and education personnel have adequate competence.

Weaknesses:
1) Low sense of ownership and responsibility of school residents for the maintenance of facilities and infrastructure.
2) Limited operational funds for the procurement and maintenance of educational facilities.

Opportunities:
1) There is potential for assigning security officers and school guards as facility supervisors.
2) Opportunities to hold workshops or training on the importance of maintaining educational infrastructure
3) An opportunity to build a positive school culture through the creation of slogans, pamphlets, or other educational media related to concern for school facilities.

Threats:
1) Teachers and students are less concerned about the preservation of school facilities and infrastructure, which leads to a lack of a sense of belonging.
2) The school is located in a densely populated area with noisy vehicle traffic, thus disturbing the comfort and order of the learning environment.

From the results of the analysis, it can be concluded that the management of facilities and infrastructure at Simeulue Regency State Junior High School has great potential to

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develop through the optimization of internal strengths and external opportunities. However, it is still necessary to overcome existing weaknesses and threats, particularly in terms of funding and the formation of collective awareness among school residents. Increasing the effectiveness of facilities and infrastructure management will depend heavily on the school's ability to develop strategic planning, build a culture of environmental care, and mobilize the participation of all school components in maintaining the sustainability of the quality of educational facilities.

Discussion

The findings of this study confirm that the implementation of facilities and infrastructure management at the Simeulue Regency State Junior High School has implemented all management functions systematically and is oriented towards improving the quality of learning. The processes of planning, procurement, arrangement, use, maintenance, and elimination run in an interrelated managerial cycle, as emphasized by the integrative model proposed in this study. These findings support the view (Bafadal, 2016); (Kompri, 2017) that the effectiveness of facilities and infrastructure management is highly dependent on the integration of management functions and multistakeholder collaboration in the school environment.

The results of the study show that the planning of facilities and infrastructure is conducted in a participatory manner by involving school principals, teachers, administrative staff, and laboratory heads. This process reflects the application of the principle of Planning in the concept of POAC (Planning, Organizing, Actuating, Controlling) as explained (Maduretno & Fajri, 2019). In this context, every managerial decision is based on an analysis of the actual needs of the school, suitability with the availability of facilities, and ability to budget. The participatory approach strengthens the value of accountability and relevance of procurement to learning needs.

The stages of procurement of facilities and infrastructure in schools show a balance between government assistance and independent procurement through the BOS funds and the SIPLah system. These findings reinforce the results of previous research (Jundullah et al., 2025), which emphasizes the importance of transparency and efficiency in the procurement process based on national regulations. In addition, schools' adaptation to budget constraints through the determination of priority scales shows the application of the principle of efficiency-oriented management, which is the main characteristic of the integrative model of education management.

In terms of the arrangement and use of facilities, this study found that schools have implemented inventory systems, coding goods, and storage based on efficiency and security. This is in line with previous findings (Karima & Khasanah, 2024), which state that data-based management of inventory and regular maintenance improves the efficiency of facility utilization and extends the useful life of facilities. The scheduling of laboratories and sports facilities also reflects systematic arrangements to avoid overlap while maximizing support for intracurricular and extracurricular learning activities.

Furthermore, the results of this study show that the maintenance and removal of facilities is carried out in a planned and sustainable manner. This process demonstrates the implementation of the controlling principle in the POAC cycle, which is oriented towards accountability and the efficiency of asset use. The removal activities, accompanied by minutes and direct supervision from the principal, showed a high level of administrative compliance, in accordance with the principles of good school

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governance. These findings reinforce the results of a study by Baidowi et al. (2024), which confirms that the systematic maintenance and disposal of educational assets is an indicator of school management maturity.

From the perspective of learning outcomes, the application of an integrative management model has proven to increase learning effectiveness. The availability of well-managed facilities and infrastructure has a positive impact on learning comfort, student enthusiasm, and teacher professionalism (Cele, 2016). This is in line with the view (Mulyasa, 2023) and (Suaeb, 2022) that the quality of learning can only be achieved if all components of the education system, including infrastructure management, function in an integrated and sustainable manner. The integrative model produced in this study confirms the cause-and-effect relationship between the effectiveness of facility management and the improvement of learning quality, as illustrated by the education system approach (Salam, 2015), which emphasizes the importance of continuity between inputs, processes, outputs, and feedback.

In addition, the discussion of Total Quality Management (TQM) is crucial to understanding the novelty of the proposed model. The continuous improvement principle of TQM is explicitly reflected in the feedback loop illustrated in Figure 1, where evaluation and supervision stages feed back into new planning and implementation cycles. This cyclical mechanism embodies the essence of TQM's "plan–do–check–act" philosophy, ensuring that every managerial process planning, procurement, arrangement, use, and maintenance is continuously refined based on empirical evaluation and stakeholder input. The feedback loop, therefore, does not merely close the management cycle but serves as a dynamic driver of quality enhancement across schools in Simeulue.

Moreover, the archipelagic context of Simeulue provides a distinctive local adaptation aspect that strengthens the model's novelty. Logistical barriers, inter-island coordination, and limited resources necessitate a flexible, feedback-driven management approach consistent with TQM's adaptability principle. By embedding local contextual learning into each cycle of improvement, the model ensures that continuous quality enhancement remains realistic and responsive to the geographical and infrastructural challenges specific to island regions. This connection between TQM and local adaptability demonstrates that the integrative model is not only managerial in nature but also contextually resilient capable of sustaining educational quality under the unique constraints of archipelagic Indonesia.

The main obstacles found, such as budget constraints and low student awareness in maintaining facilities, suggest that the success of the integrative model is determined not only by structural aspects but also by the school's organizational culture. Therefore, a managerial strategy that emphasizes educational empowerment and the participation of school residents in maintaining the sustainability of educational facilities is needed. This strategy is in line with the continuous improvement approach in total quality management (TQM) put forward by (Jimoh et al., 2019).

Overall, the results of this study strengthen the argument that the management of facilities and infrastructure that is integrative, collaborative, and adaptive to the local context is a key factor in improving the quality of learning in archipelagos such as Simeulue. The resulting integrative model not only has practical implications for educational units but also offers a theoretical contribution to the development of a

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dynamic system-based education management paradigm that emphasizes the synergy between strategic planning, functional implementation, and continuous evaluation.

CONCLUSION

Fundamental Findings: This study found that the application of an integrative model of school facilities and infrastructure management in Simeulue Regency State Junior High School has proven to be effective in improving the quality of learning through the integration of planning, procurement, regulation, use, maintenance, and elimination functions that run systematically and collaboratively. **Implications:** This model emphasizes the importance of synergy among principals, teachers, administrative staff, and education offices to realize efficiency, accountability, and sustainability-based management. This finding implies that the application of an integrative management model can be used as a practical reference for local governments and education units in designing policies for the management of educational facilities oriented towards improving the quality of learning in a sustainable manner. **Limitations:** This study still has limitations in the limited coverage of four public schools in Simeulue Regency and has not measured the quantitative impact of improving learning quality; therefore, further research with a mixed approach and a broader area is needed to test the validity of this model empirically.

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