

Implementation of Facilities and Infrastructure Management at SDN 100720 Sihopuk Baru Village

Hasriyati Harahap & Muhammad Fadhli

Universitas Islam Negeri Sumatera Utara

Jl. William Iskandar Ps. V, Medan Estate, Kec. Percut Sei Tuan, Kabupaten Deli Serdang, Sumatera Utara

Correspondence: hasriharahap23@gmail.com, muhammadfadhli@uinsu.ac.id

Article received: June 2025, Revision: July 2025, Approval: July 2025

DOI: 10.17977/um025v9i12024p330

Abstract: This study aims to describe the implementation of facilities and infrastructure management at SDN 100720, located in Sihopuk Baru Village. It employs a qualitative approach using a field study method, in which data were collected through in-depth interviews with the school principal, direct observation of the school's physical condition, and an analysis of supporting documents. The research findings reveal that the management of facilities and infrastructure at the school still faces various challenges. Some of the issues identified include limited classroom space that affects the teaching and learning process, inadequate library facilities that are merged with the principal's office, the absence of a dedicated room for the School Health Unit (UKS), and a lack of sufficient learning media to support the educational process. The management process from planning, procurement, distribution, utilization, maintenance, to disposal has not been carried out optimally. This is further complicated by the absence of dedicated personnel to handle facility management, leading to unstructured and less effective implementation. Based on the research results, it is recommended that the school, in collaboration with policymakers, conduct a comprehensive evaluation and develop a strategy for improving facility management. A shared commitment is needed to enhance the quality of the learning environment in order to support the achievement of educational goals. This study emphasizes the importance of strategic, effective, and sustainable management of school facilities and infrastructure, particularly in rural schools that face limitations in educational infrastructure.

Keywords: Implementation, Management, Facilities and Infrastructure, Elementary School

Etymologically, the term management comes from the English word management, which is rooted in the word manage, which means to take care of, organize or administer (Candra Wijaya and Rifa'i, 2016). Suhadi Winoto quotes Terry (1968), who defines management as "a distinct process of planning, organizing, actuating, and controlling, performed to determine and accomplish stated objectives through the use of human beings and other resources" It can be concluded that management is a process that includes planning, organizing, implementing, and supervising activities aimed at determining and achieving predetermined goals by optimally utilizing human resources and other available resources (Yusutria *et al.*, 2024). Success in the learning process is greatly determined by the availability of adequate facilities and infrastructure. Through a learning process supported by proper facilities, students are able to understand various values and absorb the culture and norms that play a role in shaping their character in the future (Arifin, 2024). Educational facilities and infrastructure need to be provided optimally to ensure that teaching and learning activities run smoothly and comfortably (Alfaizah, Harapan and Tahrin, 2021).

However, many schools still face limitations in facilities, which hinders the learning process from running optimally, especially in remote areas (Yusutria *et al.*, 2024).

In fact, SDN 100720 Sihopuk Baru Village faces various challenges related to facilities and infrastructure, which significantly impact the teaching and learning process. Classrooms that do not meet proper standards and deteriorating school buildings reduce both comfort and learning effectiveness. The lack of supporting facilities such as projectors can hinder the students' learning experience. Additionally, the principal's office is still combined with the teachers' room, which disrupts administrative and school management activities. These obstacles affect various aspects, including supervision of learning activities and the management of other school operations, ultimately influencing the overall quality of education in the school. The School Health Unit (UKS) at SDN 100720 Sihopuk Baru Village remains inadequate due to the lack of proper health facilities, with the UKS room even being merged with the principal's and teachers' office. In fact, the UKS plays an essential role in maintaining students' health and providing first aid to those who are sick or injured. Therefore, its presence is crucial to ensure that students can learn in optimal physical condition.

Moreover, the school library is not functioning properly due to the lack of services available to students and teachers. As a center for learning, the library should support the development of reading interest and provide access to information. However, without proper management, its function is hindered, which in turn affects the quality of students' learning. The sanitation conditions and facilities at SDN 100720 Sihopuk Baru Village are concerning, with damaged toilets, broken desks and chairs, and deteriorated roofs, walls, and fences. These conditions disrupt the comfort and health of the school community and obstruct the creation of a conducive learning environment. Therefore, improvements and upgrades to the facilities must be prioritized to support efforts in enhancing the quality of education at the school.

The implementation of a program often faces various obstacles. One of the main challenges is the low level of compliance among implementers with the established guidelines (Rahayu, Fitria and Rohana, 2024). Therefore, the success of implementation highly depends on the support of qualified human resources (Alfaiz, Sujatnika and Sutarman, 2024). The educational process that produces high-quality graduates requires effective and efficient management of facilities and infrastructure (Fadilla and Syukri, 2024). The quality of an educational institution greatly depends on well-structured and purposeful management planning (Zavadskas *et al.*, 2001). Therefore, the implementation of orderly and systematic facilities and infrastructure management which includes planning, procurement, inventory, storage, maintenance, disposal, and supervision is essential to support the smoothness and effectiveness of the educational process (Nurmayuli, 2022).

A study by Restika Manurung *et al.* on Facilities and Infrastructure Management at Public Elementary School 1 in Prabumulih City shows that the implementation of facilities and infrastructure management has a significant impact on improving the quality of education. This success is supported by adequate facilities and effective planning (Manurung *et al.*, 2020). Despite facing challenges such as limited

funding and administrative staff, effective management is still capable of improving the quality of learning in schools (Abuzayan, Whyte and Bell, 2014). The improvement of facility quality in line with the advancement of science and technology is a key factor in successful learning. Therefore, the involvement of experts and accurate inventory management are essential to ensure that facilities are utilized optimally according to actual needs (Zhafirah and Nurlaeli, 2024).

Therefore, this paper will focus on discussing the implementation of educational facilities and infrastructure management at SDN 100720 Sihopuk Baru Village. The discussion will explore various aspects involved in the management of facilities and infrastructure within the educational environment. The main objective is to ensure the smooth operation of an effective and efficient teaching and learning process.

METHOD

This study employed a qualitative method with a field-based approach, conducted at SDN 100720 in Sihopuk Baru Village from February to May 2025. The focus was on the implementation of facilities and infrastructure management, with the principal, the school committee, and teachers serving as the main respondents. Data were collected through interviews, observations, and document studies, and then analyzed through a process of data reduction, data presentation, and drawing conclusions. Data validity was ensured through source triangulation and member checking to verify the accuracy and credibility of the information (Salim and Haidir, 2019).

RESULTS AND DISCUSSION

RESULTS

Planning of Facilities and Infrastructure

Planning at SD Negeri 100720 Sihopuk Baru is carried out systematically and based on needs to support the learning process, with the principal playing the main role in planning.

“Oh, in planning, we first identify what we need at school. Usually, the facilities come from the education office, or sometimes we provide them ourselves. So, for those from the education office, we coordinate with teachers and the school committee, then we make a proposal listing what we need, and then submit a request to the office. So those involved are the committee and the teachers.”

Likewise, the committee stated:

“Okay, regarding planning for regarding facilities and infrastructure, the school committee is occasionally invited to a meeting with the principal and teachers. So when we are invited, we give input, for example about broken desks, a lack of chairs, or worn-out whiteboards. Usually, the needs are determined by looking at classroom conditions and teachers’ reports.”

The planning process at SD Negeri 100720 Sihopuk Baru is structured and systematic, referring to actual field needs based on classroom conditions and teacher reports. The process is realized through the preparation of proposals submitted to the relevant education office for assistance, supported by annual

planning documents, the involvement of all school elements, and the use of inventory data as a basis for decision-making.

Procurement of Facilities and Infrastructure

Procurement at SD Negeri 100720 Sihopuk Baru is conducted through proposal submissions to the Education Office.

“Alhamdulillah there have been no obstacles, because whenever we submit a proposal, Alhamdulillah, the requested items arrive. There has been no problem. If it’s about donations, there haven’t been any.”

Meanwhile, the school committee explained:

“All the items the school gets come from the education office. Our task as the school committee is just to monitor and oversee so that the procurement process goes smoothly and follows regulations.”

A teacher also noted:

“The school regularly submits requests for procurement to the education office every year, based on existing needs. But not everything requested is immediately granted. Sometimes we have to wait, because of limited budgets and local government regulations.”

Another teacher added:

“Facilities at SDN 100720 Sihopuk Baru are quite decent to support learning activities. Desks, chairs, whiteboards, and other learning tools are available in every classroom. The school has also received Chromebook assistance from the government, so students can use technology for learning too. But there are still shortcomings, such as the lack of supporting rooms. There is no dedicated library space, which is now being used as a classroom. The warehouse has also been turned into a learning space. There is a UKS room, but it is still combined with the principal’s and teachers’ room.”

Procurement at SDN 100720 relies entirely on assistance from the Education Office through official proposals, with a process that generally runs smoothly but takes a long time. The school must manage limitations carefully to keep learning going without depending on community donations. However, documentation and observation indicate procurement is still less effective, as shown by limited spaces and facilities for example, insufficient buildings, the UKS room used as a teachers’ office, the warehouse turned into a classroom, and inadequate sanitation conditions.

Distribution of Facilities and Infrastructure

Distribution at SD Negeri 100720 Sihopuk Baru is carried out in a structured and well-documented manner, delivering educational facilities to school users to support learning activities, as the principal explained:

“For the mechanism, like yesterday when the items came from the education office, we documented them. We took photos, there was an official report. From me to the teachers, I handed them over,

saying for example, 20 students, then 20 chairs, 20 desks. If one cupboard, then one cupboard. So we have accountability to the education office, showing which classrooms received which items, for example, bookshelves in which classes, whiteboards in which classes. Then the teachers also inform students, like these chairs are new, please don't scribble on them or damage them. That's the mechanism."

The school committee added:

"Regarding distribution, when the items arrive at school, everything is arranged directly by the school itself, without us being involved."

Distribution at SD Negeri 100720 is well-structured and documented to support teaching and learning. Each item is recorded in an official report and photographed, then distributed according to each classroom's needs and reported back to the education office for accountability. In addition, the school educates teachers and students to care for and use the provided facilities optimally and sustainably.

Inventory of Facilities and Infrastructure

Inventory at SDN 100720 Sihopuk Baru is carried out directly by the principal digitally, without a designated officer, so that records remain neat and support smooth proposal submissions to the education office. This aligns with documentation and the principal's explanation:

"Every incoming item I record in the inventory. I keep it on a laptop what items come in, I enter them there. We also check each classroom, how many damaged chairs, how many damaged desks, and then record that. So it's easier to make proposals."

The school committee confirmed:

"Regarding inventory, we know it's handled directly by the principal. There is no special person assigned for inventory."

Inventory at SD Negeri 100720 is handled by the principal alone using digital records on a laptop. Each item is recorded based on classroom condition monitoring, including quantities and damage, so data is updated regularly. This approach facilitates proposal preparation for the education office, even though the entire process is handled by the principal without a dedicated inventory team.

Maintenance of Facilities and Infrastructure

Maintenance at SDN 100720 Sihopuk Baru is carried out on an incidental and unstructured basis, with limited funding.

"For maintenance, I think if I directly maintain the items, that's impossible, right? You know the kids, especially elementary school kids. So we communicate with the homeroom teachers to remind the children to take care of the existing items."

The school committee stated:

“Regarding maintenance, the school works together with the teachers and principal on how to maintain the facilities. As the committee, of course we also participate to keep the school prosperous, both for teachers and students.”

Overall, maintenance of facilities at SDN 100720 is still unstructured and only done incidentally, with repairs carried out only when damage is severe. This situation lowers the quality of learning, highlighting the need for routine and continuous maintenance.

Storage of Facilities and Infrastructure

The goal of storage is to keep facilities safe, durable, and easy to use. Based on observations, storage at SDN 100720 Sihopuk Baru is done by placing damaged items in the teachers' housing warehouse due to limited school space. The principal explained:

“We cannot store facilities, they must be used for example, chairs or desks cannot just be stored. New items are immediately used. If there are damaged items, we store them in the teachers' housing warehouse because the school warehouse is being used as a classroom due to a shortage of classrooms.”

The school committee explained:

“For storing items, they store them in the warehouse near the teachers' housing, not in the school warehouse, because the school building is now used as grade six classrooms. So if they need something, they get it from the housing warehouse.”

In conclusion, storage at SDN 100720 is not yet optimal due to limited space and the lack of an official system. Damaged items are stored in an emergency warehouse, and some spaces such as the library and the UKS have been repurposed, indicating a shortage of supporting facilities at the school.

Disposal of Facilities and Infrastructure

Disposal is an official process for removing damaged or unfit items from the inventory list to keep asset data accurate. At SDN 100720 Sihopuk Baru, the disposal system is not yet optimal, as explained by the principal:

“Every item we keep, never thrown away. Because they are evidence. Even if it's rotted, we still keep it there. We never throw anything away. Everything not used is put in the warehouse and may be used for something else later.”

In conclusion, the disposal process at SDN 100720 is still informal and suboptimal. Damaged items are kept without an official procedure, with the possibility of being reused even if they are unfit. Responsibility for disposal lies entirely with the principal, while the committee is not involved and has little understanding of the mechanism.

DISCUSSION

Facilities and Infrastructure Planning

Based on research conducted at SD Negeri 100720 Sihopuk Baru, it was found that the planning of facilities and infrastructure is carried out by aligning with the actual needs of the school. At SD Negeri 100720 Sihopuk Baru, this planning process is conducted in a participatory manner, involving teachers and the school committee, with a focus on real needs that support the safety and comfort of students. These findings are consistent with the statement by (Astuti *et al.*, 2023) The initial step in planning the needs for facilities and infrastructure in an educational institution is to analyze existing needs to ensure they align with the students' requirements. The involvement of educators is crucial in accurately identifying data and needs. In line with Kompri (2014), needs analysis should involve all teachers so that the planning can optimally meet students' needs. Accurate and well-structured planning will determine the success and deliver a maximum impact on educational activities (Dewi, Windoro and Pura, 2021).

Procurement of Facilities and Infrastructure

Procurement is the process of providing educational facilities and infrastructure based on actual needs to support optimal learning and to enhance the effectiveness and efficiency of teaching and learning activities (Sari and Waluyo, 2021). The procurement process in schools generally involves four main aspects: purchasing through various methods such as direct purchases, tenders, or negotiations; self construction by school members to reduce costs; receiving aid or grants from the government or the community; and maintenance activities to ensure that facilities remain functional (Yahya, Rahman and Mulyadi, 2023).

At SD Negeri 100720 Sihopuk Baru, the procurement of facilities and infrastructure is entirely sourced from government grants or assistance, with no significant obstacles from within the school itself. The procurement process is carried out after a thorough needs assessment and planning stage (Mahmoud, Hassanain and Alshibani, 2024). However, procurement at SDN 100720 relies solely on support from the Department of Education, which is often slow and lacks community involvement. As a result, many school facilities remain unfit for use, as the school has not been prioritized in the provision of infrastructure. This situation at SDN 100720 Sihopuk Baru aligns with the findings of Yeni Endiana and the 2022 report from the East Java Department of Education, which indicate that schools in remote areas often face infrastructure limitations due to suboptimal maintenance, high costs, and limited budgets. The government continues to strive to deliver assistance to address these issues. Effective procurement and maintenance of facilities are the responsibility of the school principal and are essential to support an effective and efficient learning process (Asep Mumung *et al.*, 2021).

Distribution of Facilities and Infrastructure

Based on the research findings at SD Negeri 100720 Sihopuk Baru, the school principal stated that distribution is carried out according to the needs of each class and is accompanied by proper documentation. In a narrower sense within the school environment, distribution activities can be understood as the process of allocating or issuing goods according to the school's requirements, generally intended to support

administrative tasks and the teaching-learning process. At SDN 100720, the distribution of facilities and infrastructure is conducted based on the specific needs of each classroom, and is supported by documentation and official reports as accountability to the Department of Education. Although the principal takes full responsibility for this process, ideally, a designated staff member should assist in its implementation (Siswanto and Hidayati, 2020). This aligns with the view of (Sholihah, 2019) who emphasizes that facility managers should prepare official handover reports related to procurement or the transfer of distributed items.

Inventory of Facilities and Infrastructure

After the distribution process, inventory at SDN 100720 Desa Sihopuk Baru is carried out directly by the principal using a personal laptop, due to the absence of a dedicated inventory team and because teachers are focused on their teaching duties. The inventory process is conducted systematically based on official handover reports from the Education Department, recorded in digital files, and regularly updated through inspections of items in each classroom. According to the researcher, although the inventory process has not yet involved a dedicated team and still relies on personal equipment, it demonstrates the principal's commitment to responsible facilities and infrastructure management. This practice also reflects the limited human and material resources at the school, yet it still contributes to the achievement of asset management goals. This is in line with the statement by (Ngindana, Alfajri and Hendrawan, 2021), who assert that regular and systematic inventory is highly beneficial as a basis for planning and procurement processes, and it also facilitates distribution, disposal, and monitoring of school assets, thereby enabling more effective and efficient facilities management.

Maintenance and Storage of Facilities and Infrastructure

Based on observations and interviews conducted at SDN 100720 Desa Sihopuk Baru, the maintenance of facilities and infrastructure has not been implemented effectively. Maintenance activities are still incidental in nature, unstructured, and heavily reliant on assistance from the Education Office. As a result, many facilities remain in a damaged or suboptimal condition damage that could have been prevented through scheduled and routine maintenance. This situation negatively impacts the comfort, safety, and overall quality of the learning environment (Siskawati *et al.*, 2024). The school prioritizes direct use of facilities over backup storage due to space limitations, with damaged items kept in temporary locations. This highlights the need for structured maintenance and better storage organization to improve asset management efficiency.

Disposal of Facilities and Infrastructure

The disposal of facilities at SD Negeri 100720 Sihopuk Baru has not been effectively implemented, with damaged items left unmanaged due to the absence of clear procedures. This hampers efficiency, burdens staff, and disrupts the learning environment. The study found no active disposal efforts,

highlighting the urgent need for planned and documented disposal processes to improve asset management and support learning. (Ibrahim, Pitria and Setyaningsih, 2023).

To provide a clearer understanding of how facilities and infrastructure management is implemented at SD Negeri 100720 Desa Sihopuk Baru, the following illustration presents a brief visual explanation to help convey the information more easily and comprehensively.

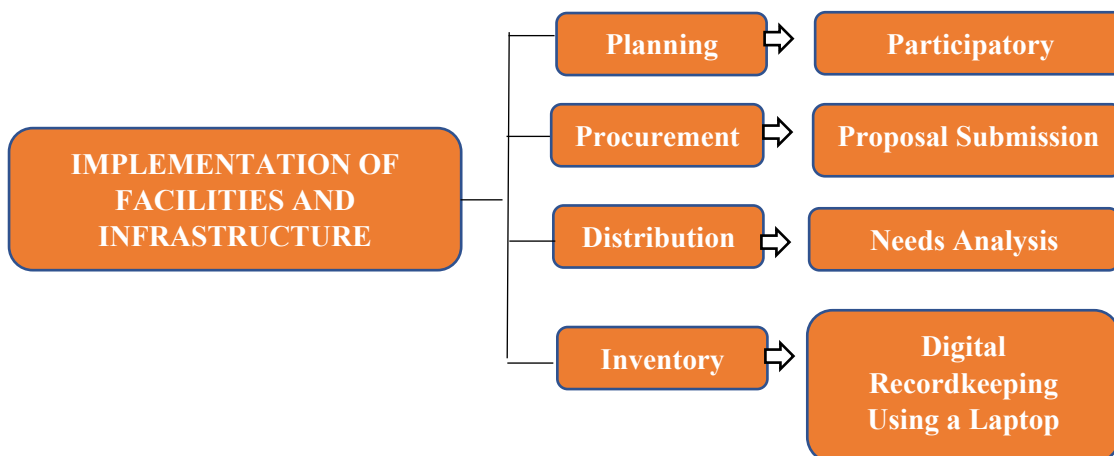


Figure 1: Implementation of Facilities and Infrastructure Management at SDN 100720, Sihopuk Baru Village

CONCLUSION & SUGGESTIONS

CONCLUSION

Based on the findings, the management of facilities and infrastructure at SDN 100720 Sihopuk Baru shows that planning has been carried out participatively by involving the principal, teachers, and the school committee, based on actual needs. Procurement runs smoothly although it requires a long waiting period, which demands good management of limitations by the school. Distribution is structured and well-documented, accompanied by maintenance education, while inventory is carried out directly by the principal using a digital system. However, the stages of maintenance, storage, and disposal remain unplanned and underdeveloped, posing challenges in achieving optimal and sustainable facilities and infrastructure management.

SUGGESTIONS

This research is crucial for SDN 100720 Sihopuk Baru as it reveals key weaknesses in maintenance, storage, and disposal, offering a foundation for SOP development, team formation, and improved coordination with the Education Office, while also serving as a reference for other schools.

REFERENCE

- Abuzayan, K.M.A., Whyte, A. and Bell, J. (2014) 'Asset-management framework(s) for infrastructure facilities in adverse (post-conflict/disaster-zone/high-alert) conditions', *Procedia Economics and Finance*, 18(September), pp. 304–311. Available at: [https://doi.org/10.1016/s2212-5671\(14\)00944-7](https://doi.org/10.1016/s2212-5671(14)00944-7).
- Alfaiz, B.Y., Sujatnika, D.A. and Sutarman, A. (2024) 'Planning and Implementation Strategies of

- Educational Facilities Management: Case Study in State High School', 10(01), pp. 31–42.
- Alfaizah, I.M., Harapan, E. and Tahrur, T. (2021) 'Management of facilities and infrastructure in junior high school', *JPGI (Jurnal Penelitian Guru Indonesia)*, 6(2), p. 348. Available at: <https://doi.org/10.29210/021053jpgi0005>.
- Arifin, B. (2024) 'Evaluation of Educational Facilities and Infrastructure Management Program in Improving the Quality of Education', *Jurnal Kepemimpinan Pendidikan*, 7(2), p. 958.
- Asep Mumung et al. (2021) 'Implementation of Facility Management to develop Education Quality', *International Journal Of Humanities Education and Social Sciences (IJHESS)*, 1(3), pp. 284–288. Available at: <https://doi.org/10.55227/ijhess.v1i3.83>.
- Astuti, M. et al. (2023) 'Perencanaan Sarana dan Prasarana pada Lembaga Pendidikan', *Semantik: Jurnal Riset Ilmu Pendidikan, Bahasa dan Budaya*, Vol 1(No 4), p. 4.
- Candra Wijaya, D. and Rifa'i, M. (2016) *Dasar Dasar Manajemen Mengoptimalkan Pengelolaan Organisasi Secara Efektif dan Efisien*, PERDANA PUBLISHING. Medan: PERDANA PUBLISHING. Available at: <http://repository.uinsu.ac.id/2836/>.
- Dewi, C., Windoro, D. and Pura, D.N. (2021) 'Management of Physical Education Facilities and Infrastructure', *Journal of Education Technology*, 5(2), pp. 291–297. Available at: <https://doi.org/10.23887/jet.v5i2.34450>.
- Fadilla, A.S. and Syukri, M. (2024) 'Facilities and Infrastructure Management in Implementing National Education Standards at SMP Negeri 35 Medan', 8(20), pp. 159–172. Available at: <https://doi.org/10.17977/um025v8i32024p159>.
- Ibrahim, Pitria, M. and Setyaningsih, K. (2023) 'PENGHAPUSAN SARANA DAN PRASARANA PENDIDIKAN DI SMA IBA PALEMBANG', *JIPMuktj:Jurnal Ilmu Pendidikan Muhammadiyah Kramat Jati*, 4(2), pp. 6–16.
- Mahmoud, A.S., Hassanain, M.A. and Alshibani, A. (2024) 'Evolving Trends and Innovations in Facilities Management Within Higher Education Institutions', *Buildings*, 14(12). Available at: <https://doi.org/10.3390/buildings14123759>.
- Manurung, R. et al. (2020) 'Manajemen Sarana Prasarana di Sekolah Dasar Negeri 1 Kota Prabumulih', *Jurnal Manajemen Pendidikan: Jurnal Ilmiah Administrasi, Manajemen dan Kepemimpinan Pendidikan*, 2(2), pp. 168–177. Available at: <https://doi.org/10.21831/jump.v2i2.33747>.
- Ngindana, R., Alfajri, T.A. and Hendrawan, M.R. (2021) 'Implementation of Policies Management in Educational Facilities and Infrastructure', *Proceedings of the 3rd Annual International Conference on Public and Business Administration (AICoBPA 2020)*, 191(AICoBPA 2020), pp. 533–536. Available at: <https://doi.org/10.2991/aebmr.k.210928.101>.
- Nurmayuli, N. (2022) 'The Management of Facilities and Infrastructures in Educational Institution', *Idarah (Jurnal Pendidikan dan Kependidikan)*, 6(1), pp. 87–102. Available at: <https://doi.org/10.47766/idarrah.v6i1.92>.
- Rahayu, M., Fitria, H. and Rohana, R. (2024) 'Management of Educational Facilities and Infrastructure in Improving the Learning Process', *Journal of Social Work and Science Education*, 5(2), pp. 588–597. Available at: <https://doi.org/10.52690/jswse.v5i2.793>.
- Salim, H. and Haidir (2019) *Penelitian Pendidikan: Metode, Pendekatan dan Jenis*, Kencana. Jakarta: Kencana.
- Sari, D.C. and Waluyo, E. (2021) 'Facilities and Infrastructure Management in Realizing the Vision and Mission of the Ece, Sekolah Indonesia Kota Kinabalu (SIKK) in Sabah, Malaysia', *Early Childhood Education Papers (Belia)*, 10(2), pp. 115–122.
- Sholihah, N.K. (2019) 'Management of Education Facilities and Infrastructure', *Advances in Social Science, Education and Humanities Research*, 387(ICED), p. 37.
- Siskawati, G. et al. (2024) 'Penyimpanan Sarana dan Prasarana Pendidikan', *Jurnal Ilmiah Universitas Batanghari Jambi*, 24(2), p. 1198. Available at: <https://doi.org/10.33087/jiubj.v24i2.4756>.
- Siswanto, E. and Hidayati, D. (2020) 'MANAGEMENT INDICATORS OF GOOD INFRASTRUCTURE

- FACILITIES TO IMPROVE SCHOOL QUALITY', *International Journal on Education, Management and Innovation (IJEMI)*, 1(1), pp. 69–81.
- Yahya, D.P., Rahman, K. R. and Mulyadi, M. (2023) 'Management of Educational Facilities and Infrastructure: Literature Review on Educational Management', *Indonesian Journal of Educational Development (IJED)*, 4(3), pp. 380–387. Available at: <https://doi.org/10.59672/ijed.v4i3.3221>.
- Yusutria et al. (2024) 'Improving the Quality of Education Through Infrastructur in Era 5.0', *Kelola: Jurnal Manajemen Pendidikan*, 11(2), pp. 158–168. Available at: <https://doi.org/10.24246/j.jk.2024.v11.i2.p158-168>.
- Zavadskas, E.K. et al. (2001) 'Facilities Management Multiple Criteria Analysis', *Statyba*, 7(6), pp. 481–489. Available at: <https://doi.org/10.1080/13921525.2001.10531776>.
- Zhafirah, A.R. and Nurlaeli, A. (2024) 'Implementasi Manajemen Sarana Prasarana Pendidikan di Sekolah Menengah Atas (SMA) dalam Rangka Peningkatan Mutu Pembelajaran', *Dirasah Jurnal*, 7(2), pp. 846–858.