

MANAGEMENT OF FACILITIES AND INFRASTRUCTURE IN EDUCATIONAL SERVICES FOR STUDENTS WITH HEARING IMPAIRMENTS AT SLB NEGERI CICENDO BANDUNG

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Abstract

Education is the right of every citizen, including people with disabilities. Deaf students need special educational services supported by appropriate facilities and infrastructure, such as hearing aids, visual media, and teachers who master sign language, so that they can be needed to support the learning process of deaf students optimally. The purpose of this study is to obtain an overview and analysis of the Management of Facilities and Infrastructure Management in Educational Services for Deaf Students at SLB Negeri Cicendo Bandung, by is studied based on the theory of Deming. This study uses a qualitative descriptive approach, with data collection techniques including observation studies, interviews, and documentation studies. The results of the research at SLB Negeri Cicendo Bandung, Planning is designed in a structured manner to support inclusive and vocational learning for students with hearing disabilities. This facility aims to meet the needs of learning as a whole and carry out the legal mandate related to special education, Implementation is carried out systematically, planned, and collaboratively, by involving various parties to meet the needs of students with hearing disabilities, Examinations are carried out regularly and participatory to ensure that facilities are always feasible, safe, and support the learning of students with hearing disabilities, Follow-up is carried out systematically and Collaborative by involving relevant parties to plan, budget, and improve facilities according to priorities, The main obstacles are limited hearing aids and inadequate visual learning media, Routine training solutions for teachers and staff to optimize the use of facilities, procurement and maintenance of hearing aids in a planned manner, and establish partnerships with relevant institutions for resource support.

Keywords: Management of Facilities and Infrastructure, Education Services, Hearing Disabilities

Abstrak

Pendidikan adalah hak setiap warga negara, termasuk orang dengan disabilitas. Siswa tunarungu memerlukan layanan pendidikan khusus yang didukung oleh fasilitas dan infrastruktur yang sesuai, seperti alat bantu dengar, media visual, dan guru yang menguasai bahasa isyarat, sehingga dapat mendukung proses pembelajaran siswa tunarungu secara optimal. Tujuan penelitian ini adalah untuk memperoleh gambaran dan analisis mengenai Manajemen Fasilitas dan Infrastruktur dalam Layanan Pendidikan bagi Siswa Tunarungu di SLB Negeri Cicendo Bandung, yang diteliti berdasarkan teori Deming. Penelitian ini menggunakan pendekatan deskriptif kualitatif,

dengan teknik pengumpulan data meliputi studi observasi, wawancara, dan studi dokumentasi. Hasil penelitian di SLB Negeri Cicendo Bandung menunjukkan bahwa perencanaan dirancang secara terstruktur untuk mendukung pembelajaran inklusif dan vokasi bagi siswa dengan disabilitas pendengaran. Fasilitas ini bertujuan untuk memenuhi kebutuhan pembelajaran secara keseluruhan dan melaksanakan mandat hukum terkait pendidikan khusus. Pelaksanaan dilakukan secara sistematis, terencana, dan kolaboratif, dengan melibatkan berbagai pihak untuk memenuhi kebutuhan siswa dengan gangguan pendengaran. Evaluasi dilakukan secara rutin dan partisipatif untuk memastikan fasilitas selalu layak, aman, dan mendukung pembelajaran siswa dengan gangguan pendengaran. Pemantauan dilakukan secara sistematis dan kolaboratif dengan melibatkan pihak-pihak terkait untuk merencanakan, menganggarkan, dan meningkatkan fasilitas sesuai prioritas. Hambatan utama adalah keterbatasan alat bantu dengar dan media pembelajaran visual yang tidak memadai. Pelatihan rutin bagi guru dan staf untuk mengoptimalkan penggunaan fasilitas, pengadaan dan pemeliharaan alat bantu dengar secara terencana, serta menjalin kemitraan dengan lembaga terkait untuk dukungan sumber daya.

Kata kunci: *Pengelolaan Fasilitas dan Infrastruktur, Layanan Pendidikan, Gangguan Pendengaran*

INTRODUCTION

Education is the right of every citizen, this is stated in the Constitution (1945), Article 31, paragraph (1). "Every citizen has the right to receive teaching, which can be interpreted as every individual who has the status of an Indonesian citizen has the right to education. Affirmed in the Law of the Republic of Indonesia Number 8 Year (2016) concerning Persons with Disabilities, that every person with disabilities has the right to obtain quality education at all levels, types, and pathways of education on an inclusive or special basis. Strengthened by the Law of the Republic of Indonesia No. 20 year 2023 on the National Education System Article 5 paragraph (2) that "Citizens who have physical, emotional, mental, intellectual, and or social abnormalities have the right to obtain Special Education".

One type of disability that requires special attention in the education process is hearing disability (deaf). Students with hearing impairments require a different learning approach, both in terms of methods, media, and supporting facilities and infrastructure. Education services for students with hearing disabilities require a different approach from regular education. Limitations in hearing cause deaf students to have barriers in verbal communication and understanding oral instructions. Therefore, they rely heavily on visualization, sign language, and auditory aids in the teaching and learning process. In order for these services to be realized, adequate facilities and infrastructure are needed. Given that educational facilities and infrastructure are an important component in creating a conducive learning environment, especially for students with special needs. In Sekolah Luar Biasa (SLB), facilities and infrastructure include not only classrooms and stationery, but also assistive technology, visual media, and facilities that support alternative communication. Good management of facilities and infrastructure can have a significant impact on the learning outcomes of deaf students, as they rely heavily on visual media

and other aids in understanding learning materials. Providing appropriate facilities and infrastructure in Education Services for students with hearing disabilities is essential. For example, soundproof classrooms, assistive listening devices, visual learning media, and educators who know sign language. Good management will ensure that all these facilities are available and used effectively to support the teaching and learning process of deaf students.

In order to achieve this goal, it is necessary to organize them properly. This can be done through the Management of Educational Facilities and Infrastructure to ensure that all facilities needed in the learning process are available, managed, and utilized effectively, efficiently, and sustainably to support the achievement of educational goals. Bafadal (2003) defines the management of educational facilities and infrastructure as: “The process of working together to utilize all educational facilities and infrastructure effectively and efficiently.” Bafadal explains that the management of facilities and infrastructure aims to:

In order for these objectives to be achieved, it is necessary to organize them properly. This can be done through the Management of Educational Facilities and Infrastructure to ensure that all facilities needed in the learning process are available, managed, and utilized effectively, efficiently, and sustainably to support the achievement of educational goals. Bafadal (2003) defines the management of educational facilities and infrastructure as: “The process of working together to utilize all educational facilities and infrastructure effectively and efficiently.” Bafadal explains that facilities and infrastructure management aims to: *First*, seek the procurement of school facilities and infrastructure through a careful and efficient planning and procurement system; *Second*, seek the use of school facilities and infrastructure appropriately and efficiently; *Third*, seek the maintenance of educational facilities and infrastructure so that they are always in a ready-to-use condition.

The provision of facilities and infrastructure by SLB Negeri Cicendo Bandung shows that SLB Negeri Cicendo has a strong commitment to providing Special Education services for deaf students. Through the revitalization of facilities and infrastructure and the development of vocational education programs, this school seeks to create a learning environment that is inclusive, safe, and encourages the maximum development of students' potential. Skills programs such as graphic design, catering, and beauty not only equip students with practical skills but also prepare them to be independent and able to compete in the world of work. SLB Cicendo still faces several challenges, such as limited skills space, library facilities that are not yet ideal, and building accessibility that needs to be improved. Improvement efforts continue to be carried out gradually and continuously. Support from the government, community, and the business world is also needed to realize equal and meaningful education for all students with special needs. With the spirit of inclusivity and improved service quality, SLB Negeri Cicendo continues to

transform into a special education institution that is responsive to the needs of the times and its students.

In addition, the challenges faced by SLB Negeri Cicendo are related to the management of facilities and infrastructure management, such as budget constraints, lack of training for managers, and less than optimal utilization of educational technology. Therefore, an in-depth study is needed on how the management of facilities and infrastructure is carried out at SLB Negeri Cicendo Bandung. Answering the gap, this research offers novelty by using management theory (Deming 1993). This theory includes four main management functions: planning, implementation, supervision, follow-up, Constraints, and Solutions as an analytical framework. This study aims to describe and analyze the Management of Facilities and Infrastructure Management in Educational Services for Students with Deaf Disabilities in SLB Negeri Cicendo Bandung.

Management of facilities and infrastructure in SLB, especially for students with hearing disabilities, is a crucial aspect in creating adaptive, inclusive, and meaningful education services. This theoretical study shows that the success of special education services is largely determined by the availability and management of facilities that meet the audiological and communication needs of deaf students. Therefore, an in-depth study of managerial practices at SLB Negeri Cicendo Bandung is very important to determine the extent to which the effectiveness of the management of educational facilities and infrastructure has been implemented (Mulyasa 2013). "Education management is the process of planning, organizing, directing, coordinating, and supervising all educational activities to achieve educational goals effectively and efficiently". In the context of special education, education management has a strategic role in ensuring that all components of education, including facilities and infrastructure, are adapted to the needs of students with special needs. In this research, of course, it is adjusted to the conditions of students with hearing disabilities.

According to Bafadal (2003), management of educational facilities and infrastructure is a process of cooperation in utilizing all learning facilities effectively and efficiently. The objectives include: 1) Proper planning and procurement, 2) Optimal utilization. 3) Continuous maintenance. The facilities and infrastructure in question include all forms of tools, materials, facilities, and spaces that are used directly or indirectly in the learning process. In the context of Education Services in Special Schools, this includes hearing aids, visual learning media, and supporting facilities such as soundproof classrooms and educators who master sign language. In special schools such as SLB Negeri Cicendo, the management of facilities and infrastructure requires a more specialized approach. According to Sudjana (2001), effective management of educational facilities must include the first Inventory of needs and availability. *Second*, distribute facilities fairly and equitably. *Third*: Disability-friendly and adaptive use. Fourth Periodic maintenance and supervision, In the context of SLB Negeri Cicendo, the development of facilities such as skills rooms, vocational laboratories, and assistive technology will greatly support the

achievement of educational goals, especially to prepare students to be independent and productive.

Planning aspects as mentioned Sibagariang et al. (2025). Management planning of facilities and infrastructure management in educational services for students with hearing disabilities is very important to support an inclusive and effective learning process. Meanwhile, according to Faiqotul et al. (2018), planning is carried out through analyzing the needs of deaf students, which includes the stages of procurement, distribution, inventory, maintenance, and elimination of facilities and infrastructure. Challenges such as budget constraints and lack of teacher training in the use of assistive devices are the main obstacles, but this is overcome by regular training and increased coordination between related parties. In addition, another opinion according to Shofana (2022) emphasizes the importance of mapping the individual needs of students with special needs and the integration of supporting facilities in inclusive learning to create a collaborative learning atmosphere. Meanwhile, according to (Deming 1986), Planning is a process in which organizations identify problems or opportunities for improvement, collect and analyze data, and set clear goals and strategies to achieve the desired results.

The implementation aspect, as mentioned, includes various activities that are integrated, starting from procurement, distribution, use, maintenance, to evaluation. In its implementation, the procurement of facilities is adjusted to the results of identifying student needs, which include hearing aids, interactive visual media, and disability-friendly classrooms. The distribution process is carried out proportionally based on the number and characteristics of students in need, with direct supervision from the facilities management team Suryati et al. (2023) In addition, implementation also includes technical training for teachers in the use and maintenance of assistive devices, so that their use is optimal during learning Faiqotul et al. (2018) On the other hand, the evaluation aspect of implementation is carried out periodically by measuring the effectiveness of the facilities that have been used and making repairs or replacing damaged or no longer suitable tools Sahid and Rachlan (2019) Basically Deming (1986) Implementation, the plan is implemented in reality by carrying out previously designed actions.

Inspection of educational facilities and infrastructure for students with hearing disabilities is a crucial aspect in ensuring the effectiveness and sustainability of inclusive education services. According to Efendi (2019), supervision is carried out regularly to ensure that the facilities and infrastructure provided remain in good condition, function according to student needs, and are used appropriately by educators and students. The supervision process includes checking the physical tools, the cleanliness of the classroom, and the availability and feasibility of other supporting facilities. In line with the opinion of Deming (1993), the results of implementation are evaluated and compared with the initial objectives to determine effectiveness and any deviations. Furthermore, Hasanah et al. (2023) Effective supervision also involves coordination between teachers, principals, and

other relevant parties to overcome obstacles quickly and ensure the sustainability of educational facilities that support the needs of students with hearing disabilities.

The follow-up aspect, as mentioned in Efendi (2019), to ensure sustainability and improve the quality of education services, follow-up action in the management of education facilities for students with hearing disabilities is very important. After the monitoring and evaluation process, a follow-up is conducted. This involves repairing damaged or malfunctioning facilities and adding new ones to meet needs, according to Rahmawati and Purwendi (2019), who state that follow-up also requires continuous training for teachers and management staff to ensure that existing facilities and infrastructure are used as optimally as possible. In addition, Rahmawati and Purwandari (2021) say that effective follow-up requires creating policies and budgets that support ongoing maintenance and innovation in facility provision. Inclusive education services for students with hearing disabilities can be continuously improved with systematic follow-up. This will allow students to take full advantage of the learning process, in line with the opinion of Deming (1993) revealed that organizations ensure that evaluation results are implemented in real terms and become part of routine processes so that quality continues to improve.

The constraints of Facilities and Infrastructure Management in Educational Services for Students with Deaf Disabilities, according to Layan et al. (2021) the importance of utilizing facilities and infrastructure in supporting student diversity in inclusive schools. Meanwhile, another opinion states B. Karmelia et al. (2024) support that supporting facilities play an important role in inclusive education, such as classrooms that are friendly to people with disabilities and adaptive learning media. The solution to overcome obstacles, according to Irwan Suryadi (2023), states that schools must ensure that the facilities and infrastructure provided are really in accordance with the needs of students with hearing disabilities and other opinions mention (Shofana 2022). School management must make a periodic maintenance schedule so that all facilities and infrastructure remain in good condition and function optimally. Management planning should include data collection of equipment, maintenance budgeting, and evaluation of use.

METHODS

According to Sugiyono (2020), this research uses a descriptive method with a qualitative approach. This approach was chosen to obtain an in-depth description of the management of facilities and infrastructure management in providing educational services for students with hearing disabilities at SLB Negeri Cicendo Bandung. Descriptive research aims to describe systematically, factually, and accurately the facts and characteristics of the object under study. This research was conducted at SLB Negeri Cicendo Bandung, which is one of the Special Schools that provides Special Education Services for students with hearing impairments. The subject of this research is the management process of managing facilities and infrastructure in supporting educational services for students with hearing disabilities. The research informants were determined by purposive sampling, which is selected based on certain criteria relevant to the research focus. The main informants

consisted of 1) Head of School, 2) Deputy, 3) Principal of Facilities and Infrastructure, 4) Teachers who teach deaf students, 5) Administrative staff (facilities and infrastructure section), 6) Students with deaf disabilities, 7) Parents of students (as external triangulation).

According to Sugiyono (2020), the data collection techniques used in this study include: 1) Observation: Carried out directly in the school environment to observe the physical condition of facilities and infrastructure and their use in the teaching and learning process. 2) In-depth interview: Conducted to the main informants using open-ended interview guidelines, to obtain in-depth data on the management of Facilities and Infrastructure. 3) Documentation study: Reviewing related documents such as school work plans, inventory data, procurement reports, and maintenance of infrastructure facilities.

The data obtained was analyzed using the interactive data analysis model of Miles and Huberman, which includes three main stages 1) Data reduction: Filtering and summarizing data from observations, interviews, and documentation 2) Data presentation: Arranging data in the form of descriptive narratives, tables, or charts to facilitate understanding, 3) Conclusion drawing and verification: Concluding findings based on patterns, categories, and relationships between information to ensure data validity, triangulation techniques are used, namely: Source triangulation (using various sources of information: teachers, principals, students, parents), Primary School Quality Improvement Management, From centralization to decentralization.

RESULTS AND DISCUSSION

Based on the research findings in the field, researchers discuss these results by linking them to the theory of planning (plan), implementation (do), checking (check), and action (act) or the PDCA cycle according to the theory (Deming 1993).

Management Planning of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

Facilities and infrastructure management planning at SLB Negeri Cicendo Bandung is designed to support optimal educational services for students with hearing disabilities. As one of the oldest special schools in Indonesia, SLBN Cicendo has a vision to create an inclusive and accessible learning environment. The educational facilities available are very diverse and tailored to the needs of deaf students. These facilities include standard classrooms, laboratories, audiology rooms, podcast rooms, prayer rooms, halls, and sports halls. The existence of skill rooms and expertise programs such as PKPBI also supports practice-based learning that is relevant for students with special needs. In addition, SLBN Cicendo also integrates vocational programs, such as culinary, to prepare students to enter the world of work. Complete practical facilities and training tailored to students' abilities are part of the school's strategy in providing holistic education services. With this approach, SLBN Cicendo emphasizes its commitment to developing the potential of deaf students as a whole.

Implementation of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLBN Cicendo Bandung

The implementation of management of facilities and infrastructure management at SLB Negeri Cicendo Bandung is carried out systematically and continuously in accordance with the educational needs of students with hearing disabilities. This process starts from identifying needs, budget planning, to the implementation of construction or procurement of supporting facilities. The school management team works closely with related parties, such as the education office and parents, to ensure that each facility development truly supports the learning process of students with special needs. While in practice, the revitalization of learning spaces and therapy rooms is carried out through adjustments to physical design and acoustics that are friendly to deaf students. The implementation of development is carried out in stages according to the 2020-2023 strategic plan, including the renewal of hearing group rooms, speech therapy rooms, and public facilities such as school gardens and picket rooms. In addition, technology utilization began to be applied in digital learning spaces to improve students' access to information and teaching materials. Each stage of implementation also involves monitoring and evaluation by school management to ensure the effective use of facilities. The school ensures that the available facilities are not only physically adequate but also truly functional to support inclusive learning. With this approach, SLBN Cicendo is able to create a learning environment that is safe, comfortable, and suitable for the characteristics of deaf students, while strengthening their readiness in social life and the world of work.

Examination of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

Inspection of the management of facilities and infrastructure at SLB Negeri Cicendo Bandung is carried out periodically to ensure that all facilities are in a decent, safe, and functional condition for students with hearing disabilities. The inspection process includes a physical review of learning spaces, therapy rooms, laboratories, as well as public areas such as toilets, gardens, and parking areas. The inspection is conducted by the school management team in collaboration with the relevant technical or service providers if necessary. In addition to the physical aspects, the evaluation also covers the function and effectiveness of the use of facilities in supporting the learning process. Teachers and education personnel are involved to provide input on obstacles or additional needs in the utilization of facilities. This feedback helps the school make the right decision in making improvements or further development. The results of the inspection are reported systematically and form the basis for the preparation of follow-up plans, either in the form of maintenance, replacement, or construction of new facilities. With a structured inspection system, SLBN Cicendo can maintain the quality of the learning environment that supports the success of inclusive education for deaf students.

Follow-up Management of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

Follow-up management of facilities and infrastructure management at SLB Negeri Cicendo Bandung involves the preparation of a work plan by the school management team. The plan is then submitted to relevant parties, such as the education office or school committee, to obtain budget support and technical implementation. If damage or a mismatch of facilities with students' needs is found, the school immediately proposes procurement or renovation according to priorities. For example, if therapy tools or learning media are damaged, repairs or replacements are carried out as quickly as possible so as not to disrupt the teaching and learning process. In addition, follow-up also includes training teachers in utilizing new facilities so that their use is optimal and on target. With quick and responsive follow-up, SLBN Cicendo demonstrates its commitment to creating a learning environment that supports students' holistic development. This process ensures that facilities and infrastructure are not only available but also function effectively in supporting quality, inclusive, and vocational education for deaf students.

Constraints of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

Constraints on the Management of Facilities and Infrastructure Management in Educational Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung, management of facilities and infrastructure in accordance with the needs of students. One of the main obstacles is the limitation of hearing aids and adequate visual learning media. Deaf students rely heavily on assistive devices such as audiometers, hearing aids, and speech therapy devices, but the procurement and maintenance of these tools require high costs and specialized expertise, which are not always optimally available in schools.

In addition, constraints also arise in adjusting classroom facilities and learning environments that must be designed with visual aspects and non-verbal communication in mind. For example, poor lighting, unstrategic spatial arrangements, or a lack of visual learning media such as pictures, videos, and digital boards can hinder students' understanding of the subject matter. These limitations often have a direct impact on the effectiveness of the learning process. The lack of specialized training for teachers and staff in utilizing facilities designed for deaf students is also an important barrier. Facilities may be available, but they are not used optimally because not all educators are competent in visual communication or sign language. Thus, these constraints demand serious attention in the management of facilities and infrastructure in order to truly support a friendly and effective learning process for deaf students.

Solutions to the Management of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

The solution in the management of facilities and infrastructure management at SLB Negeri Cicendo Bandung is the procurement and maintenance of hearing aids in a planned

and sustainable manner. The school can collaborate with the education office, social institutions, or sponsors to get financial assistance or grants, and form a special team that has expertise in maintaining these tools so that their use is always optimal. In addition, adjustments to classroom facilities and the learning environment are also very important, such as improving lighting, strategically arranging spaces, and adding visual learning media in the form of pictures, videos, and digital boards so that deaf students can more easily understand the subject matter. Regular training for teachers and staff is also a crucial solution to improve their competence in utilizing existing facilities, especially in visual communication and sign language, so that facilities can be used optimally and according to student needs. Furthermore, the development of mentoring programs and collaboration with speech therapists, psychologists, and counselors can help meet students' needs holistically. Finally, periodic monitoring and evaluation of the condition of the facilities and the effectiveness of their use must be carried out so that obstacles that arise can be immediately identified and repaired in a timely manner.

DISCUSSION

Management Planning of Facilities and Infrastructure Management in Educational Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

Facilities and infrastructure management planning at SLB Negeri Cicendo Bandung is designed to support optimal education services for students with hearing disabilities. As one of the oldest special schools in Indonesia, SLBN Cicendo has a vision to create a learning environment that is inclusive, accessible, and adaptive to the needs of students with hearing impairments. Educational facilities available include disability-friendly classrooms, laboratories, audiology rooms, podcast rooms, prayer rooms, halls, sports halls, to skills rooms, and expertise programs such as PKPBI (Industry-Based Education Expertise Program). All of these facilities are designed in a planned manner to support practice-based learning and life skills, according to Sibagariang et al. (2025). Facilities and infrastructure management planning in education for students with hearing disabilities is very important to ensure the effectiveness of learning and the equitable distribution of educational services. Good planning allows educational institutions to meet the physical and non-physical needs of learners as a whole, and supports the goals of educational inclusion. This is in line with Deming's (1993) opinion that educational organizations need to identify the needs of learners, design service strategies, and set quality standards to be achieved. SLBN Cicendo demonstrates the implementation of this principle through the preparation of procurement and maintenance plans for facilities that are relevant to the conditions and potential of deaf students, including vocational programs such as catering, designed to support students' future independence.

In addition to being based on a modern managerial approach, such planning is also in line with the legal mandate contained in Law of the Republic of Indonesia No. 20 of 2023 on the National Education System, specifically Article 5 Paragraph (2) which states that: *"Citizens who have physical, emotional, mental, intellectual, and/or social abnormalities*

have the right to obtain special education.” This article emphasizes that the state is obliged to provide proper and equal education services for all citizens, including those with special needs. In this case, SLBN Cicendo carries out the mandate through planning inclusive facilities and infrastructure, as a form of fulfilling the constitutional rights of students with disabilities. The provision of audiology rooms, vocational practice facilities, and various other supporting services reflects the responsibility of educational institutions in ensuring equal access and quality of services. Facilities and infrastructure management planning at SLB Negeri Cicendo Bandung is carried out in a structured manner to meet the needs of students with hearing disabilities, supporting inclusive and vocational learning. So with this, the management planning of facilities and infrastructure at SLB Negeri Cicendo Bandung is structured to support inclusive and vocational learning for students with hearing disabilities, meet their overall needs, and carry out the mandate of the special education law.

Implementation of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

The implementation of management of facilities and infrastructure management at SLB Negeri Cicendo Bandung is carried out systematically and continuously, adjusted to the educational needs of students with hearing disabilities. This process starts from identifying needs, budget planning, to the implementation of construction or procurement of supporting facilities. The school management team works intensively with relevant parties, such as the education office and parents, to ensure that each facility development truly supports the learning process of students with special needs. In practice, the revitalization of learning spaces and therapy rooms is carried out by adjusting the physical design and acoustics that are friendly to deaf students, thus creating an environment that supports communication and comfort.

The implementation of facilities and infrastructure development is carried out in stages in accordance with the school's 2020-2023 strategic plan, including the renewal of hearing group rooms, speech therapy rooms, and public facilities such as school gardens and picket rooms. In addition, the utilization of modern technology began to be applied in digital learning spaces to improve students' access to information and teaching materials, in line with the development of today's educational technology. Each stage of implementation is also accompanied by strict monitoring and evaluation by school management to ensure the effectiveness and efficiency of the use of facilities and infrastructure. The school not only ensures the physical availability of adequate facilities but also emphasizes their function and impact in supporting the inclusive learning process. This approach allows SLB Negeri Cicendo to create a learning environment that is safe, comfortable, and suited to the special characteristics of deaf students, while strengthening their readiness for social life and the world of work.

This implementation is in line with the principle of management implementation proposed by Bafadal (2003), which emphasizes that management must be carried out in

a planned, systematic manner and involve coordination between stakeholders so that organizational goals can be achieved optimally. In the context of SLB Negeri Cicendo, the implementation of structured and collaborative facilities and infrastructure management is a key success factor in meeting the educational needs of students with special needs. In addition, this finding also supports the results of Samsul Arifin's research (2020), which emphasizes the importance of planned and participatory management of facilities and infrastructure in facilitating students with special needs. The involvement of various parties and attention to the function and feasibility of facilities are important aspects in realizing effective inclusive education.

Constitutionally, efforts to manage optimal educational facilities and infrastructure are also in line with the mandate of the 1945 Constitution of the Republic of Indonesia Article 31 paragraph (1), which states that “Every citizen has the right to education.” Thus, the management of facilities and infrastructure at SLB Negeri Cicendo not only aims to provide physical facilities, but also to ensure the rights of students with hearing disabilities to get a proper and equal education, in accordance with the principles of justice and inclusiveness in national education.

Examination of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

Inspection of the management of facilities and infrastructure at SLB Negeri Cicendo Bandung is carried out periodically to ensure that all facilities are in a decent, safe, and functional condition for students with hearing disabilities. The inspection process includes a physical review of learning spaces, therapy rooms, laboratories, as well as public areas such as toilets, gardens, and parking areas. The inspection is conducted by the school management team in collaboration with the relevant technical or service providers if necessary. In addition to the physical aspects, the evaluation also covers the function and effectiveness of the use of facilities in supporting the learning process. Teachers and education personnel are involved to provide input on obstacles or additional needs in the utilization of facilities. This feedback helps the school make the right decision in making improvements or further development. The results of the inspection are reported systematically and form the basis for the preparation of follow-up plans, either in the form of maintenance, replacement, or construction of new facilities. With a structured inspection system, SLBN Cicendo can maintain the quality of the learning environment that supports the success of inclusive education for deaf students. This is in line with the findings of Hasanah et al. (2023), who emphasized the importance of routine and participatory infrastructure management in supporting the smooth running of special learning processes, especially for students with special needs. In addition, Dewi's research (2022) shows that the active involvement of teachers and education personnel in the evaluation of infrastructure facilities can increase the responsiveness of schools to the specific needs of students, thus minimizing obstacles in the teaching and learning process and improving the quality of education services in inclusive schools. This approach is

also in line with the principles of total quality management according to Deming (1993), emphasizing the importance of continuous inspection and continuous improvement to ensure the quality of facilities and infrastructure remains optimal in supporting the education process.

Follow-up of Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

Follow-up management of facilities and infrastructure management at SLB Negeri Cicendo Bandung is carried out systematically by involving the preparation of work plans by the school management team. This is in line with the findings of Efendi (2019), who emphasized the importance of structured planning in the management of educational facilities and infrastructure so that learning objectives can be achieved optimally. The work plan is then submitted to relevant parties, such as the education office and school committee, to obtain budget support and technical implementation. This mechanism demonstrates a collaborative effort that is in line with the principles of participatory management outlined in the study (Layanan et al. 2021), where the involvement of various stakeholders is key to the successful management of educational resources in special schools. In practice, if damage or a mismatch of facilities with student needs is found, the school immediately proposes procurement or renovation based on priority needs. For example, the repair or replacement of therapy tools and learning media is done quickly so as not to hamper the teaching and learning process. This responsive action refers to the provisions in the Law of the Republic of Indonesia No. 20 of 2023 on the National Education System, which emphasizes the importance of providing adequate educational facilities and infrastructure that function effectively to support the rights of learners, including students with disabilities, to obtain a decent and quality education.

In addition, the follow-up of facilities and infrastructure management at SLBN Cicendo also includes teacher training in utilizing new facilities. This effort is in accordance with the principle of increasing the competence of educators stipulated in Law No. 20 of 2023, to ensure optimal utilization of facilities and support the achievement of inclusive education goals. With prompt and responsive follow-up, SLBN Cicendo demonstrates its commitment to creating a learning environment that supports the holistic development of deaf students. This comprehensive management process ensures that facilities and infrastructure are not only available but also function effectively in supporting quality, inclusive, and vocational education for deaf students.

Constraints of Management of Facilities and Infrastructure in Educational Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

Constraints in the management of educational facilities and infrastructure for students with hearing disabilities at SLB Negeri Cicendo Bandung are crucial aspects in ensuring accessibility and inclusive learning quality. In this context, theory (Mudiantoro and Muhid 2022) emphasizes the importance of the effectiveness of educational services that

are responsive to students' special needs. Services et al. underline that the provision of appropriate facilities and adaptive management can improve the learning outcomes and well-being of students with disabilities. This is relevant to SLB Negeri Cicendo's efforts to optimize facilities and infrastructure to support an interactive and communicative learning process for deaf students. Furthermore, the management of infrastructure facilities can also be analyzed through the foundation of the Six Value Systems according to Sanusi, namely the value of benefits, economic value, social value, aesthetic value, educational value, and religious value. In this context, facilities and infrastructure in SLB are not only seen from their functional values (benefits and education) but also from social values that foster inclusiveness and respect for diversity. For example, the use of specialized communication technology and disability-friendly classrooms not only increases practical benefits but also supports social and aesthetic values that create a comfortable and meaningful learning environment for students.

Meanwhile, according to the theory (A. Karmelia et al. 2024), inclusive education management must integrate a holistic approach that combines physical, psychological, and social aspects in the provision of educational facilities. Karmelia et al. underline that the management of facilities and infrastructure should involve the active participation of various stakeholders, including teachers, parents, and the community, to create a supportive and empowering learning environment. This can be seen in the practice of SLB Negeri Cicendo, which involves teachers and families in evaluating facility needs to improve learning effectiveness for deaf students.

Management Solutions for Facilities and Infrastructure Management in Education Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung

The solution to managing facilities and infrastructure in education services for students with hearing disabilities by conducting regular training for teachers and staff is the next crucial solution to increase competence in utilizing existing facilities, especially in visual communication and sign language. This capacity building ensures that facilities can be used optimally and according to student needs, thus supporting an effective learning process. (Bafadal 2003) which emphasizes the importance of planning, implementing, and controlling resources systematically and sustainably so that the goals of educational organizations can be achieved effectively. The first step that needs to be taken is the procurement and maintenance of hearing aids in a planned and sustainable manner. This is in line with management principles that prioritize the efficiency and effectiveness of using existing facilities.

Meanwhile, previous research by Ismail et al. 2022) also supports the importance of inter-agency cooperation and staff training in managing educational facilities for students with special needs. They found that collaboration with educational institutions, social institutions, and sponsors is very helpful in providing assistive devices and other resources. Therefore, SLB Negeri Cicendo can establish partnerships with education agencies, social institutions, and sponsors to obtain financial assistance or grants, and

form a special team that has expertise in maintaining hearing aids so that their use is optimal and durable.

In addition to equipment procurement, adjustments to classroom facilities and the learning environment are very important. For example, improving lighting, strategically arranging classrooms, and adding visual learning media such as pictures, videos, and digital boards will make it easier for deaf students to understand learning materials. This approach is in accordance with the mandate of the Law of the Republic of Indonesia No. 8 of 2016 on Persons with Disabilities, which regulates the fulfillment of the rights of persons with disabilities to inclusive education and adequate accessibility. Furthermore, the development of mentoring programs and collaboration with speech therapists, psychologists, and counselors can help meet the needs of students holistically, in accordance with management principles that promote an integrated approach and are based on user needs. Periodic monitoring and evaluation of the condition of facilities and the effectiveness of their use need to be carried out systematically so that any obstacles can be immediately identified and repaired in a timely manner. This step is important to maintain the continuity of the quality of education services provided to students with hearing disabilities.

CONCLUSION

Management of Facilities and Infrastructure Management in Educational Services for Students with Deaf Disabilities at SLB Negeri Cicendo Bandung has been carried out in accordance with the provisions where this has been designed and implemented in a directed manner to support educational services for students with deaf disabilities as regulated in the Law of the Republic of Indonesia Number 8 of 2016 concerning Persons with Disabilities, that every person with disabilities has the right to obtain quality education at all levels, types, and paths of education on an inclusive or special basis. Strengthened by the Law of the Republic of Indonesia No. 20 of the year (2023) concerning the National Education System Article 5 paragraph (2) that “Citizens who have physical, emotional, mental, intellectual, and or social abnormalities have the right to obtain Special Education”. So that educational infrastructure can improve educational services for students with hearing disabilities.

Facilities and infrastructure management planning at SLB Negeri Cicendo Bandung is designed in a structured manner to support inclusive and vocational learning for students with hearing disabilities, meet their needs as a whole, and carry out the mandate of the special education law. The implementation of facilities and infrastructure management at SLB Negeri Cicendo Bandung is systematic, planned, and collaborative, involving various parties to meet the needs of students with hearing disabilities. This process includes building disability-friendly facilities, utilizing technology, and strict monitoring to support inclusive learning and ensure equal education rights for students with special needs.

Inspection of facilities and infrastructure management at SLB Negeri Cicendo Bandung is conducted regularly and participatively to ensure that the facilities are always appropriate, safe, and support the learning of students with hearing disabilities. Evaluation involves the management team and educators to identify the need for improvement or development, so that the quality of the inclusive learning environment can be maintained on an ongoing basis. Follow-up on the management of facilities and infrastructure at SLB Negeri Cicendo Bandung is carried out systematically and collaboratively by involving related parties for planning, budgeting, and repairing facilities according to priorities. In addition, teacher training is also provided for optimal utilization of facilities, thus supporting quality, inclusive, and vocational education for students with hearing disabilities.

The constraints of facilities and infrastructure management at SLB Negeri Cicendo Bandung are the need for responsive, adaptive, and holistic facilities to support inclusive learning for students with hearing disabilities. This challenge includes the fulfillment of functional, social, and aesthetic values of facilities, as well as the need for active involvement of all stakeholders so that the learning environment becomes comfortable, effective, and empowering. Management solutions for facilities and infrastructure management at SLB Negeri Cicendo include regular training of teachers and staff to optimize the use of facilities, planned procurement and maintenance of hearing aids, and establishing partnerships with related institutions for resource support. In addition, adjustments to classroom facilities, development of a holistic mentoring program, and periodic monitoring and evaluation are needed to make inclusive education services for students with hearing disabilities effective and sustainable.

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