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## Systematic Literature Review The Role of Educational Facilities and Infrastructure for Children with Special Needs at School

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### ABSTRACT

Children with special needs need quality facilitators. One form of facilitator that children with special needs need to have is facilities and infrastructure that can support their education. The purpose of this study is to add insight into the importance of educational facilities and infrastructure for children with special needs in schools and to see what the real condition of educational facilities and infrastructure in Indonesia in recent years. Systematic Literature Review (SLR) to collect and analysed data from 14 articles relevant to the topic under review. The results show the importance of the role of facilities and infrastructure for children with special needs which greatly affects learning outcomes as well as how the real conditions of facilities and infrastructure are still not appropriate, causing many problems for both students with special needs and educators. The results of this study are expected to help all parties to care more about the conditions of facilities and infrastructure for children with special needs in schools, be it students, teachers, school authorities, parents, government, and or the public.

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## 1. INTRODUCTION

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves and society (based on Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System). Various efforts are carried out by educational institutions to realize education in accordance with legislation, one of which is by fulfilling learning facilities or what is called facilities and infrastructure. It can be said, facilities and infrastructure are the needs of all school residents, especially in the teaching and learning process. Facilities and infrastructure are one of the external factors that support the achievement of learning achievement (Ni'amissa'adah, A. et al, 2022).

Bafadal (2004) revealed that educational facilities are all sets of equipment, materials, and furniture that are directly used in the educational process at school. Meanwhile, educational infrastructure is all basic equipment that indirectly supports the implementation of the educational process at school (Ni'amissa'adah, A. et al, 2022). From this definition, it is known that facilities and infrastructure have a big role in education. In addition, in certain educational institutions there are not only regular students, but there are also special students who are often called Children with Special Needs who also need facilities and infrastructure that are able to facilitate their specificity.

The Directorate of Special Education (in Erawati, I. L. et al, 2016) states that Children with Special Needs are children who significantly (meaning) experience abnormalities or deviations (physical, mental-intellectual, social, emotional) in the process of growth or development compared to other children their age, so they need special education services. With these conditions, facilities and infrastructure clearly have a big role for their development. Because facilities and infrastructure are able to become facilitators as well as providers of accessibility for them to be able to obtain education as other regular children.

With the role of educational facilities and infrastructure that is so important for children with special needs, making every school that accommodates it, be it a special school or an inclusive school, should be able to provide appropriate facilities and infrastructure services. Based on several previous studies, it is found that the role of facilities and infrastructure for children with special needs in schools. The results of the correlation test at one of the Inclusive Elementary Schools in Metro City revealed that learning infrastructure facilities have an influence on the learning outcomes of children with special needs (Marfuah, Y. et al, 2018). Educational facilities and infrastructure are one of the determinants that affect the quality of learning (Saat Sulaiman, 2015). In a study with a sample of deaf special needs children, it was found that providing supporting facilities and infrastructure such as media and teaching aids and hearing aids was able to make special students with hearing impairments better understand learning (DP, T. T., 2022). In research by Reza et al (2020), it was found that educational facilities and infrastructure for children with disabilities are important to be considered by the special assistant teacher coordinator, because facilities and infrastructure can act as a source of accessibility for both students with special needs and for the teachers themselves (Simorangkir, M. R. R. & Lumbantoruan, J. H., 2021). In other studies, it is also mentioned how important the physical environment is for children with special needs in an inclusive school environment, facilities and infrastructure can support the learning activities of students with special needs (Ackah-jnr & Danso, 2018).

The purpose of this research is to add insight into the importance of educational facilities and infrastructure for children with special needs in schools and to see the real condition of educational facilities and infrastructure in Indonesia in recent years. This research was conducted using the systematic literature review (SLR) method to collect, analyze and synthesize related literature within the last nine years (2014 to 2023). With 14 selected scientific articles, the research results illustrate various perspectives on the role of educational facilities and infrastructure for children with special needs as well as problems that still arise in schools in several regions of Indonesia. The novelty of this research lies in the formulation of the problems studied as well as systematic methods. This research is expected to be able to provide conceptual contributions as well as spark the awareness of many parties regarding the importance of the role of educational facilities and infrastructure for children with special needs, which unfortunately is still not appropriate.

## 2. METHODS

### 2.1. Types of Research

This type of research in the Role of Educational Facilities and Infrastructure for Children with Special Needs in Schools is using a Systematic Literature Review (SLR) approach with data sources derived from indexed journal literature. Data retrieval is done through internet surfing with google scholars as a database. Systematical literature review in this study was carried out by making scientific articles related to facilities and infrastructure for children with special needs in schools as a research population.

Kitchenham and Charters define Systematic Literature Review (SLR) as the process of identifying, assessing, and interpreting all available research evidence with the aim of providing answers to specific research questions. The systematic literature review method can play a major role in the research process because every fact from existing research is systematically reviewed.

### 2.2 Research Procedure

This research procedure was carried out based on the six steps of the research procedure carried out by Francis & Beldesari (Francis & Beldesari in Novitasari, M. et al, 2023) which is explained in **Figure 1**. the systematic literature review research procedure was conducted through six steps. The first step was carried out by formulating two research questions, namely: (a) What are the roles of educational facilities and infrastructure for children with special needs? and (b) What is the condition of educational facilities and infrastructure for children with special needs in the last eight years? The second step was carried out by: (a) searching for literature from various journals; (b) the search focused on literature on facilities and infrastructure for children with special needs; (c) the search was limited to the last nine years (2014-2023); (c) the literature search was carried out on one database, namely google scholar. The third step was carried out by selecting each literature that had been found and only using literature that was in accordance with the title and formulation of the questions that had been determined. Step four was carried out by analyzing the literature that had been determined. Step five was carried out by revising and consulting the research results. And the sixth step is done by preparing the article for publication.



Figure 1. Systematic literature review research procedure.

### 3. RESULTS AND DISCUSSION

#### 3.1. The Role of Educational Facilities and Infrastructure for Children With Special Needs

There are several facts related to the role of the role of educational facilities and infrastructure for students with special needs based of **tabel.1**. Of the eleven studies used as references, the most important role of facilities and infrastructure for children with special needs is the role of learning outcomes (Burhanuddin et al, 2023; Marfuah et al, 2018; Mustafa et al, 2018; Efendi, H., 2019; and Bening et al, 2022). Another role of facilities and infrastructure that is also felt for children with special needs is as a source of accessibility (Arum et al, 2020 & Jefri, T., 2016). Other roles of facilities and infrastructure that are also felt by children with special needs in schools are as a source of repair and healing (Zulfa et al, 2014), as a tool to improve skills and potential (Sulvita et al, 2016) and as a support for learning (Agustin Ina, 2016).

**Table 1.** Role of educational facilities and infrastructure for children with special needs

Journal Name	Author. Year	Research Results
Scientific Journal of Education Science (JIIP)	Burhanuddin, Hudaya, C., and Siswandi, I. (2023).	The results showed that if facilities and infrastructure are able to be organized properly, they can affect the quality of student learning.
Journal Universitas Sarjanawiyata Taman Siswa (UST)	Efendi Hanafi. (2019).	From the results of the study it was found that facilities and infrastructure will play a role in the learning process and results.
Journal of Postgraduate Master of Education Administration, Syiah Kuala University	Mustafa, AR. M., and Niswanto. (2018).	Research reveals that facilities and infrastructure play a role in facilitating the learning process for children with special needs and can affect student learning outcomes.
Pedagogy: Journal of Basic Education	Marfuah, Y., Sowiyah, S., and Siswantoro, S. (2018).	The results of this study reveal that facilities and infrastructure are one of the factors that affect student learning outcomes.
Basicedu Journal	Bening, T. P. and Putro, K. Z. (2022).	The results of this research on inclusive schools show that facilities and infrastructure can play a role in providing improvement and healing for learners with special needs.
Department of Public Administration	Zulfa, E. R., Noor, I., and Ribawanto, H. (2014).	Based on the research, it was found that facilities and infrastructure play a major role in developing the potential (academic or non-academic) of students with special needs.

Journal Name	Author. Year	Research Results
BEST Journal (Biology Education, Science and Technology)	Arum, S. K., Widyastono, H., and Sunardi. (2020).	Facilities and infrastructure are vital for children with special needs because they provide accessibility and accommodation for students with special needs.
Journal of Special Needs Education	Suvita, Y., Manullang, T. I. B., and Supriatna, M. (2022).	95% of subject teachers in the inclusive schools studied revealed that facilities and infrastructure are able to improve the skills and potential of students with special needs.
Education and Human Development Journal	Agustin, I. (2016).	This research reveals that facilities and infrastructure play a supporting role in learning and are meaningful for the development of students with special needs.
Indonesian Journal of Disability Studies	Jefri, T. (2016).	The research conducted revealed that facilities and infrastructure for learners (students) can support accessibility.

Learning outcomes as the most cited role is due to the special characteristics of children with special needs. Facilities and infrastructure in special or inclusive schools must be suitable for children with disabilities. The provision of learning facilities and infrastructure in inclusive education can be in the form of special equipment. Special equipment is needed according to the type of disorder of the child with disabilities. The special equipment used by teachers is useful to make it easier for teachers to deliver the material to children with disabilities, so that their learning outcomes will be better. The exam results at the school studied revealed that only 16 students out of 51 students had good exam results due to the lack of learning facilities and infrastructure needed by students with special needs (Marfuah et al, 2018). There are also children with special needs with the specificities they have that make accessibility a valuable thing for them. Accessibility is able to provide convenience, usefulness, safety, and independence for students with special needs (Jefri, T., 2016).

### 3.2. Condition of Education Facilities and Infrastructure for Children with Special Needs

**Table.2**, found that the most common condition of facilities and infrastructure in Indonesia is incomplete facilities and infrastructure. Four of the incomplete facilities and infrastructure are caused by facilities and infrastructure that are still limited to certain barriers and have not been able to facilitate every obstacle possessed by students with special needs in the school (Efendi, H., 2019; Marfuah et al, 2018; Noviandari et al, 2018; and Mustafa et al, 2018). Meanwhile, other incomplete facilities and infrastructure are in the presence of space, the number of study groups exceeds the available classrooms (Burhanuddin et al, 2023) as well as the absence of special learning spaces (Zulfa et al, 2014).

Another condition of facilities and infrastructure that was revealed was the absence of facilities and infrastructure for students with special needs. In the schools studied, there were no facilities and infrastructure that could support the obstacles and specificities possessed by students with special needs, where students still had to use the same facilities and infrastructure as regular students (Bening et al, 2022; Yunita et al, 2019; Arum et al, 2020; and Agustin, I., 2016).

Another thing that is found from **table.2** is data that the conditions of facilities and infrastructure that facilitate children with special needs in schools are in special schools (Burhanuddin et al, 2023; Mustafa et al, 2018; Zulfa et al, 2014; and Noviandari et al, 2018).

Meanwhile, inclusive schools that are still united with regular students tend to still have many limitations of special learning tools and media and do not have good accessibility (Efendi, H., 2019; Marfuah et al, 2018; (Bening et al, 2022; Yunita et al, 2019; Arum et al, 2020; and Agustin, I., 2016).

**Table.2** Condition of educational facilities and infrastructure for children with special needs

Journal Name	Author. Year	Research Results
Scientific Journal of Education Science (JIIP)	Burhanuddin, Hudaya, C., and Siswandi, I. (2023).	The results of research in two special schools revealed that the condition of facilities and infrastructure in each school is good and fully functional. However, the problem is that the number of classrooms does not match the number of study groups. There is also no special learning space.
Journal Universitas Sarjanawiyata Taman Siswa (UST)	Efendi Hanafi. 2019.	The condition of facilities and infrastructure in inclusive schools observed in this study shows the fact that the facilities and infrastructure owned are still incomplete, thus providing many obstacles.
Journal of Postgraduate Master of Education Administration, Syiah Kuala University	Mustafa, AR. M., and Niswanto. 2018.	The real conditions of facilities and infrastructure in the schools observed were adequate, because there were special equipment such as wheelchairs and hearing aids. However, the existing facilities and infrastructure are not adequate for every student with special needs.
Pedagogy: Journal of Basic Education	Marfuah, Y., Sowiyah, S., and Siswanto, S. (2018).	This research reveals that the inclusive schools observed still have learning outcomes for children with special needs that are not optimal. This is because the facilities and infrastructure are not adequate to meet the needs of each student with special needs or because the existing facilities and infrastructure have not been used optimally.
Basicedu Journal	Bening, T. P. and Putro, K. Z. (2022).	The condition of existing facilities and infrastructure in the inclusive schools studied is still not qualified for students with special needs, because teaching media and tools are only available for regular students, nor is there a special learning space for the obstacles of each student with special needs.
Department of Public Administration	Zulfa, E. R., Noor, I., and Ribawanto, H. (2014).	Based on observations, the condition of facilities and infrastructure in the special schools studied is still not qualified. There is no special learning space for each obstacle of students with special needs.
International Journal of Elementary Education.	Yunita, E. I., Suneki, S., and Wakhyudin, H. (2019).	The results of observations and interviews at one of these inclusive schools show that the facilities and infrastructure are not yet suitable. Where existing facilities and infrastructure are still limited to regular students.
Journal of Psychology: Scientific Journal of the Faculty of Psychology, Yudharta University Pasuruan	Noviandari, H. and Huda, T. F. (2018).	Research at one of these SDLBs shows that there are still constraints on educational facilities and infrastructure for students with special needs that are still limited.
BEST Journal (Biology Education, Science and Technology)	Arum, S. K., Widayastono, H.,	At the inclusive primary school studied, it was found that the facilities and infrastructure were inadequate where the building was still mixed with the regular junior high school building and did not have accessibility.



Journal Name	Author. Year	Research Results
	and Sunardi. (2020).	
Education and Human Development Journal	Agustin, I. (2016).	At the inclusive primary schools studied, it was found that students with special needs had not been facilitated with resource rooms (guidance, special, and rest rooms).

#### 4. CONCLUSION

Based on the literature review conducted in this study, there is an effective relationship between the important role of educational facilities and infrastructure and the specificities possessed by children with special needs. Educational facilities and infrastructure have an important role in the learning process. Especially for children with special needs who require facility adjustments. Because of this, educational facilities and infrastructure have a greater influence on learning outcomes in children with special needs. Based on this literature review from various journals, it is found that the condition of educational facilities and infrastructure for children with special needs, whether in special schools or inclusive schools, is still not satisfactory. This can be seen from the uneven facilities received by students. The unevenness of these facilities can be found either in the same school or between schools.

In conclusion, educational facilities and infrastructure have a very important role in the learning outcomes of children with special needs in schools. Whether it is a special school (special school) or an inclusive school, it should be able to accommodate every specificity and obstacle possessed by children with special needs in the school. Every problem that exists is not only the responsibility of the school, but many parties, including the general public.

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#### 6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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