

# Profile of Adaptive Physical Education Facilities and Infrastructure in Private and Public Schools: A Case in the City of Bandung

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**Abstract.** Facilities and infrastructure are essential to the learning process, especially in adaptive physical education learning for children with special needs. Special Schools (SS) need adequate facilities and infrastructure so that the learning process can be effective. The purpose of this study is to find out how to describe the level of availability of adaptive physical education learning facilities and infrastructure in SS throughout the city of Bandung. The research method uses a quantitative descriptive. The sample of this research is six public SS in Bandung city with a purposive sampling technique. The instrument used is an observation sheet based on the Regulation of the Minister of National Education Number 24 of 2007 concerning Standard Facilities and Infrastructure for Elementary, Junior, and High Schools in Indonesia. Data analysis uses quantitative description as outlined in the form of a percentage. The results showed that adaptive physical education learning infrastructure in special schools throughout Bandung in 2021-2022 was in the 'fair' category with a percentage of 44%, and infrastructure in the 'very good' category with a rate (of 86%). Details related to facilities and infrastructure are also explained..

**Key words:** Facilities; Infrastructure; Adaptive Physical Education

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## INTRODUCTION

Every child in Indonesia has the right to receive physical education to balance his mental and physical development with his physical development. The implementation of physical education in schools does not only apply to students in general but also to children with special needs (ABK) who face disabilities and limitations. As stated in Law no. 20 of 2003, Chapter IV, Article 5, Paragraph 2, citizens with physical, emotional, mental, intellectual, and social disabilities have the right to obtain private education. Therefore, all children, including those with special needs, have the same right to physical education. According to Ekawati et al. (2021, p. 28), Children with Special Needs (ABK) have significant differences in human functioning, such as physical, mental/intellectual/emotional, social, or sensory abnormalities. During its development, ABK experienced intellectual, social, emotional, and motor disabilities and disabilities, so learning was needed to provide special services according to their abilities.

Chapter IX in Law Number 20 of 2003 is explained the National Education Standards. These standards include standards for content, process, graduate competence, academic staff, facilities and infrastructure, management, financing, and education evaluation which must be planned and periodically improved. Based on these national education standards, Minister of National Education Regulation No. 24 of 2007 concerning Standards for School/Madrasah Education Facilities and Public Education Minister Regulation No. 33 of 2008 regarding Standards for Facilities and Infrastructure for Special Elementary Schools emerged. Special Junior High School and Special High School. The ministerial regulation explains the minimum criteria for facilities and infrastructure owned by schools. The success of educational programs in the teaching and learning process is strongly influenced by

several factors, namely students, curriculum, education staff, funds, facilities and infrastructure, and other environmental factors. If these factors are adequately met, and with quality, it will improve the quality of education. It is necessary to establish standards that are used as references or limits for achieving quality to enhance the quality of education.

According to Agus S. Suryobroto (in Widodo and Nurina, 2016), facilities or equipment are needed in physical education learning, easily moved and even brought by the actors or students following. For example, balls, rackets, sticks, bars, shuttlecocks, nets, etc. According to Rudi (in Nugraha & Nurharsono, 2020), sports infrastructure is a source of support that includes sports venues in the form of buildings and physical boundaries whose conditions are clear and meet sports requirements, and sports activities are carried out. Adaptive physical education according to Hakim (2017, p. 19), is "a program that is individual in nature which includes physical/physical, motion fitness, basic movement patterns and skills, skills in water activities, dancing sports games both individually and in teams designed for persons with disabilities disabled". Aip Sjarippudin (in Lusianti, Kholis, and Puspodari, 2017) argues that educational development is aimed only at normal children but also at children with disabilities or disabilities who are commonly called children with special needs. Not all children born into this world are perfect. It turns out that some of them are born with deficiencies, both physically and mentally. Such children are called Children with Special Needs. According to the Ministry of Women's Empowerment and Child Protection of the Republic of Indonesia 2013 (in Desiningrum, 2016), Children with special needs are children who experience physical, intellectual, social, and emotional limitations or disabilities that significantly hinder their growth or development process compared to other children of the same age. Children with special needs are not only related to physical limitations but also psychological limitations.

Facilities and infrastructure include all tools and equipment that directly and indirectly support the educational process. Educational facilities and infrastructure are academic factors whose existence is necessary for the educational process. Mahendra, Astra, and Semarayasa (2020) emphasized that facilities and infrastructure are critical factors in the success of PE learning. Still, these facilities and infrastructure are also a problem that is often found in most schools in Indonesia. Especially for children who need special assistance in teaching and learning, these children need facilities and infrastructure following their conditions and life needs. However, there are still many gaps between government facilities and infrastructure level and the actual situation at SS in Bandung. They were starting from the building, through the classroom, to spaces that support learning. According to Saputri (2014, p. 1045), SS lacks instruments that refer to standard facilities and infrastructure that are not adapted to the SS curriculum. The SS does not yet have uniform sports facilities and infrastructure standards. Field facts about Physical Education learning because the author got them directly from field observations at SS Temanggung on the 15th. The infrastructure is very different from schools in general. Based on the problems explained, this research aims to determine the availability of adaptive physical education facilities and infrastructure in public schools in Bandung.

## **METHODS**

This research is included in the quantitative descriptive study. This research method used is survey research, which aims to determine the completeness of facilities and infrastructure supporting adaptive physical education learning in UPI Partner Public Schools throughout the City of Bandung.

This study's sample was PE teachers who taught at SS (3 Public SS and 3 Private SS) throughout Bandung. The sampling technique used in this study was a purposive sampling technique, with the sample criteria being schools collaborating with research institutions.

Researchers used observation sheets provided by researchers to obtain information about adaptive physical education facilities and infrastructure in each SS. The references for the items in the observation sheet refer to the Regulation of the Minister of National Education Number 24 of 2007 concerning the standard of facilities and infrastructure for Elementary, Junior, and High schools.

The method used in this data analysis is to use a descriptive analysis method; namely, the data obtained is poured in the form into themes, then described to produce realistic clarity (Lenaini, 2021). The data obtained is calculated from the number of facilities and infrastructure owned by each school, then divided by the ideal/standard number multiplied by 100% with the Ali formula (1993) as follows:.

$$\frac{n}{N} \times 100\%$$

Note:

n = number of facilities and infrastructure

N = Facilities and infrastructure standards

To conclude, using Arikunto's assessment (2016), **Table 1.**

**Table 1.** Standard Percentage of Assessment of Facilities and Infrastructure

Range	Percentages	Category
81-100%	100%	Very Good
61-80%	80%	Good
41-60%	60%	Fair
21-40%	40%	Poor
0-20%	20%	Very Poor

## RESULT AND DISCUSSION

Per the research objective, namely to find out how the availability of facilities and infrastructure supports adaptive physical education learning in public schools in Bandung. Data were taken at 6 (six) SS in Bandung from 25 August 2022 to 27 September 2022. Scores were assessed using the Guttman scale. If the assessment indicator meets the criteria from the observation sheet, then the indicator gets a score of one (1). If it does not complete, it will get zero (0).

### Facilities at Public SS in Bandung

**Table 2.** Adaptive Physical Education Facilities in Public SS in the City of Bandung.

Physical Education Facilities Indicator		Schools		
Factor	Item	SSN 1	SSN 2	SSN 3
Volleyball	Minimum six ball	0	1	0
Football	Minimum six ball	0	1	0
Basketball	Minimum six ball	0	1	0
Gymnastic Equipment	Jump Rope	0	1	1
	Plastic Ball	0	0	1
	Hoop	1	1	1
	Stick	0	0	0
	Ring	0	0	0
Athletics Equipment	Javelin	1	0	0
	Discus	1	1	0
	Bullet	1	1	0
Loudspeaker	Relay Baton	0	0	0
	Mattress	1	1	0
Loudspeaker	Loudspeaker	1	1	1
Tape Recorder	Tape Recorder	0	1	0
Value amount		6	10	4
Percentage		40%	67%	27%
The total value of the availability of facilities			20	
The total value of the availability of facilities that must be available from 3 schools			45	

Based on the data in **Table 2**, the availability of adaptive physical education facilities in public schools throughout Bandung is in the "Fair" category with a percentage (44%).

### Infrastructure in Public SS in Bandung

**Table 3.** Adaptive Physical Education Infrastructure in Public SS in Bandung City

Physical Education Infrastructure Indicator	Schools		
	SSN 1	SSN 2	SSN 3
The playground/exercise area functions as an area for playing, exercising, physical education, ceremonies, and extracurricular activities.	1	1	1
The minimum ratio of the area for playing/exercise is 3 m <sup>2</sup> /student. For eduthreeational units with less than 167 students, the minimum area for play/sports is 500 m <sup>2</sup>	1	1	0
There is free space for a place to exe 15 m.	1	1	0
Playgrounds/sports are placed in places that do not interfere with the learning process in class.	1	1	1
The playground/sports area is partly open space planted with green trees.	1	1	1
The playground/exercise area is not used for parking.	1	1	0
The free space referred to above has a flat surface, good drainage, and to trees, or waterwaysthat interfere with sports actes.	1	1	1
<b>Value amount</b>	<b>7</b>	<b>7</b>	<b>4</b>
<b>Percentage</b>	<b>100%</b>	<b>100%</b>	<b>57%</b>
<b>The total value of the availability of infrastructure</b>	<b>18</b>		
<b>The total value of the availability of infrastrucute that must be avainfrastructure schools</b>	<b>21</b>		

Based on the data in **Table 3**, the availability of adaptive physical education infrastructure in Public SS in Bandung is in the "Very Good" category with a percentage 86%.

### Facilities at Private SS in Bandung

**Table 4.** Adaptive Physical Education Facility at Private SS in Bandung

Physical Education Facilities Indicator		Schools		
Factor	Item	SSS 1	SSS 2	SSS 3
Volleyball	Minimum six balls	0	0	0
Football	Minimum six balls	1	0	0
Basketball	Minimum six balls	0	0	0
Gymnastic Equipment	Rope	1	1	0
	Plastic Ball	0	1	0
	Hoop	1	1	0
	Stick	0	1	0
	Ring	1	0	0
Athletics Equipment	Javelin	0	1	0
	Discus	1	1	0
	Bullet	0	1	0
	Relay Baton	1	1	0
	Mattress	0	1	1
Loudspeaker	Loudspeaker	1	1	1
Tape recorder	Tape recorder	0	0	1

Value amount	7	10	3
Percentage	47%	67%	20%
The total value of the availability of facilities	20		
The total value of the availability of facilities that must be available from 3 schools	45		

Based on the data in **Table 4.** the availability of adaptive physical education facilities in private SS schools throughout Bandung is in the "Fair" category with a percentage of 44%.

### Infrastructure at Private SS in Bandung

**Table 5.** Adaptive Physical Education Infrastructure at Private SS in Bandung

Physical Education Infrastructure Indicator	Schools		
	SSS 1	SSS 2	SSS 3
The playground/exercise area functions as an area for playing, exercising, physical education, ceremonies, and extracurricular activities.	1	1	1
The minimum ratio of the area for playing/exercise is 3 m <sup>2</sup> /student. For educational units with less than 167 studentacademicmum area for play/sports is 500 m <sup>2</sup> .	0	0	0
There is free space for a place to exercise 20 m x 15 m.	0	0	0
Playgrounds/sports are placed in places that do not interfere with the learning process in class.	1	0	0
The playground/sports area is partly open space planted with green trees.	1	1	1
The playground/exercise area is not used for parking.	0	1	1
The free space referred to above has a flat surface, good drainage, and there are no trees, water and ways and other objenterfere with sports activity	1	1	1
Value amount	4	4	4
Percentage	57%	57%	57%
The total value of the availability of infrastrucute	12		
The total value of the availability infrastructure that available from 3 schools	21		

Based on the data in **Table 5.** the availability of adaptive physical education infrastructure in private SS in Bandung is in the "Fair" category with a percentage (57%).

### Availability of Adaptive Physical Education Facilities

Based on the study's results, namely that there was one State SS in the "Good" category, the facilities owned by the school were sufficient to meet the standards set by National Education Regulations No. 24 of 2007. The number, completeness, and condition of the facilities owned by the school have exceeded the minimum standard. With adequate facilities, there are no obstacles to implementing PE learning at the school. Based on the study results, two State Senior High Schools were in the "Less" category, and the facilities in the two schools did not meet the general standards of the Minister of National Education. This is similar to Agustina's research (in Nopiyanto and Pujiyanto, 2022) which states that adequate adaptive physical education learning facilities and infrastructure in SS do not meet standards and require more attention from the school and the relevant government. The availability of facilities owned by the two schools is mostly incomplete, and the number of facilities is less than the minimum standard of the National Education Regulations.

The continuity of PE learning in public schools throughout the city of Bandung has obstacles due to the limited availability of facilities, which results in difficulties for students with special needs to take part in physical education classes (Salasa, 2021). In addition, teachers who handle all State SS are

teachers from Special Education or Non-PE with limited understanding of PE learning, so using sports facilities to carry out learning is not optimal. As in the research conducted by Haris, Taufan, and Nelson (2021), some physical education teachers in SS are not PE subject teachers but class teachers. Even though the teacher's role is significant amid limited facilities and infrastructure (Prasetyo, 2020). Haris et al. (2021) show the need for PE subject teachers in adaptive physical education requires an understanding of the circumstances and needs of students with special needs to develop the skills and potential of special education teachers. Sukiyandari and Kardiyono (2016) argue that schools lack facilities and infrastructure requires physical education teachers to be more creative in providing materials through inadequate facilities and infrastructure. Therefore, teachers must continue using creativity to overcome these problems, one of which is design learning strategies.

In implementing adaptive physical education learning activities at State SS, of course, this cannot be separated from funding constraints from the government for inadequate facility assistance for children with special needs. So in learning, the teacher must try to modify the tools or media around the school. This is in accordance with the views of Lastuka and Cottingham (2016), who explains that obstacles in adaptive sports play, such as the lack of accessible facilities and financial constraints, can be reduced through increased financial support for adaptive sports. Unfortunately, even though sport offers many benefits for persons with disabilities, sports support resources for persons with disabilities are still lacking.

The results of the overall average availability of private SS facilities are the same as those of the public SS studied. Based on the results of the study, there was one private SS that was in the "Very Good" category. Namely, the facilities owned by the school had met the standards of National Education Regulations No. 24 of 2007. The availability and condition of school facilities were classified as good according to the needs of students, coupled with other facilities and the facilities provided and modified according to the needs of students with disabilities in the school to support the continuity of PE learning.

Based on the discussion above, it can be seen that the availability of adaptive physical education learning support facilities in public schools throughout the city of Bandung is in the medium category. In accordance with the opinion or standard percentage rating according to Arikunto (2016) that the percentage of 41-60% is in the less moderate category. Herman and Riady (2018) revealed that the need for physical education facilities and infrastructure is essential, meaning that physical education students must use the facilities and infrastructure that suit their needs. In contrast to the research conducted by Saputri (2013), the study found that the availability of facilities and infrastructure to support PE learning in SS Negeri was fulfilled very well with the use of suitable facilities. This study used a descriptive analysis technique that described the availability of sports facilities and infrastructure to support the PE learning process in only one public school.

In addition, it can be seen that the availability of adaptive physical education learning support facilities in public schools throughout Bandung is in the moderate category. In accordance with the opinion or standard percentage rating according to Arikunto (2016) that the percentage of 41-60% is in the less moderate category. Herman and Riady (2018) revealed that the need for physical education facilities and infrastructure is very important, meaning that physical education studentcritical facilities and infrastructure that suit their needs. In contrast to the research conducted by Saputri (2013), the study found that the availability of facilities and infrastructure to support PE learning in SS Negeri was fulfilled very well with the use of suitable facilities. In addition, the general standard of facilities and infrastructure used as a reference in this study uses criteria adjusted to the availability of existing facilities and infrastructure in the State SS. Therefore, the results of Saputri's research (2013) are different from the results of the study that has been done, because the availability of adaptive physical education learning support facilities in public schools throughout the city of Bandung is in the moderate category referring to the general standards of National Education Regulations No. 24 of 2007. The availability of facilities or equipment is the biggest obstacle to student learning (Nugraha & Yuwono, 2021), so that good sports facilities can support physical education learning in SS. The research uses a descriptive analysis technique that describes the availability of sports facilities and infrastructure to support PE learning in only one State SS.

### **Availability of Adaptive Physical Education Infrastructure**

The availability of infrastructure in State SS is 29% higher than in Private SS. The research shows two schools are categorized as "Very Good". The size of the sports field meets the standards.

There is free space for sports venues. Parking lots are not used, trees and other objects that can interfere with sports activities are not disturbed. These things are related to research conducted by Saputri (2014) which shows that the infrastructure in State SS is fulfilled very well because the average exceeds the general standards of the Minister of National Education. Soepartono (in Herman and Riady, 2018) argued that sports infrastructure supports the implementation of the physical education learning process. Based on the research, one school is categorized as "Fair". The available infrastructure is quite good, with sports fields, playgrounds, and trees. However, in the SS, the field area is less than the minimum area stated in the National Education Regulations standards and is not proportional to the number of students present. Similar to research conducted by Khikmah (in Ratnasari, Sugiarto, and Fitriady, 2020) regarding physical education learning facilities and infrastructure. The infrastructure in the various schools studied in this study has an area of sports venues less than the area stated in the general standards. In addition to the lack of field size, the school has no free space for sports venues, and the field is often used as a parking area.

It is known that the overall average result for the availability of Private SS infrastructure has a difference of 29% with Public SS. Based on the research of the three private SS studies, the results were in the same category, namely the "Fair" category. The availability of infrastructure in private SS is good enough in accordance with the standards of the National Education Regulations No. 24 of 2007. The criteria for infrastructure that were not met in the three schools consisted of a lack of sports fields, there was no free space for sports venues, the sports fields were located in places that could interfere with classroom learning, and one of the schools had a field that was used as a parking park. Future research is expected to involve a larger sample to obtain more data. In addition, there is a need for more specific and detailed government regulations regarding sports facilities and infrastructure standards for Special Schools (SS).

## CONCLUSION

The results of the overall research on the availability of facilities and infrastructure supporting adaptive physical education learning in public schools throughout the city of Bandung in 2021-2022 resulted in the availability of facilities in the moderate category with a percentage (44%), and infrastructure in the very good category with a percentage 86%. This is due to the availability of physical education learning facilities and infrastructure in SS throughout Bandung, some of which have met the general standards of Minister of Education Regulation No. 24 of 2007. Government regulations related to standard facilities and infrastructure specifically for SS are urgently needed so schools can optimally carry out the learning process according to student needs.

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