

# Availability of Supporting Facilities for Students with Physical Disabilities Who Use Wheelchairs in Special Schools

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**Abstract:** - *In the implementation of special education services for students with special needs in Indonesia, some students with physical disabilities get education services in special schools. Several studies have revealed that students with physical disabilities often have difficulties with participation in school activities. In this case, it is important to know the extent of the availability of facilities to support learning activities for students who experience physical barriers to wheelchair users. The purpose of this study is to determine the availability of facilities to support learning activities for student who experiences physical barriers to wheelchair users at special school. Research is carried out using quantitative descriptive research types. As a research sample, researchers chose 4 special schools in Central Java Province that serve education for students with physical disabilities who use wheelchairs. Researcher analyzes facilities for fulfilling students with physical disabilities who use wheelchairs in special schools. The conclusion obtained in this study is that the availability of supporting activities for learning activities for students with disabilities who use wheelchairs in the four special schools is still lacking or has not been fulfilled.*

**Keywords:** - *Supporting Facilities, physical disabilities, wheelchair, special school.*

## I. Introduction

Some students with physical disabilities get education services in special schools. In implementing learning in special schools, students who experience physical barriers need supporting facilities that are appropriate to their physical needs and conditions. However, to find and determine appropriate support facilities for students who experience physical barriers to wheelchair users is not easy. We have found several obstacles experienced by them when carrying out learning activities in special schools. Physical disabilities can be defined as a form of abnormality or disability in the muscular, bone, joint and nervous system caused by diseases, viruses, and accidents that occur both before birth, at birth and after birth. Physical impairment is a condition that inhibits individual activities as a result of damage or disruption to the bones and muscles, thereby reducing the normal capacity of individuals to

Attend education and to stand alone. Therefore, students with physical disabilities definitely need tools to facilitate their movements [1].

Children with physical disabilities have 2 (two) categories, namely ambulant-disabled and wheelchair-bound disabled. Ambulant disabled means persons with physical disabilities in this category have limitations to move, they can move by using tools such as crutches, sticks, braces, frames (restraints that are inside individual's body). This individual is not wholly paralyzed. In this category, they do not need to use a wheelchair. Wheelchair-bound disabled is a group of people with physical disabilities who have limitations to mobilize from one place to another. Therefore it is certain for them to use wheelchair aids to carry out their daily lives. What we want to discuss in more depth in this study is the group of children with physical disabilities who use wheelchair aids in

their mobility [2]. Several studies have revealed that students with physical disabilities often have difficulties in participating in school activities [3]. Physical barriers most often noted include distances; heavy doors; steep ramps; and rough surfaces, such as uncut curbs and thresholds [4].

There are at least 7 aspects that need to be developed in each of the physically disabled children through education, namely: (1) developing intellectual and academic, (2) helping physical development, (3) increasing emotional development and self-acceptance of children, (4) maturing social aspects, (5) maturing moral and spiritual, (6) improving self-expression, and (7) preparing for the child's future. To increase the participation of students who experience barriers in wheelchair users so that they can carry out learning activities they need supporting facilities that are appropriate to their physical conditions and needs [5]. In this case, it is important to know the extent of the availability of facilities to support learning activities for students who experience physical barriers to wheelchair users. The purpose of this study is to determine the availability of facilities to support learning activities for students who experience physical barriers to wheelchair users at school special [5].

People who are immobile often sit in one chair for many hours throughout the day. In the community, wheelchair users spend up to 18 hours a day in a wheelchair [6]. Many are subject to sustained unrelieved pressures due to their lack of pressure-relieving movement (Lesley Stockton & Maria Flynn, 2009) [7]. *Pressure ulcers* occur in people who suffer from a disease that causes limited body movement. The sufferer will lie in bed or sit in a wheelchair for a long time, so that there are parts of the body that are constantly experiencing pressure and injury.

## II. Methods

Research is carried out using quantitative descriptive research types. As a research sample, researchers chose 4 schools in Central Java Province that serve education for students with

physical disabilities. The population in this study was 1 (one) special school in Boyolali District, 1 special school in Karanganyar Regency, 1 special school in Wonogiri Regency and 1 special school in Pati Regency. School sampling is based on physically disabled students who are wheelchair users who receive education services in special schools. The type of data used in this study is primary data and secondary data. Primary data is data obtained directly by researchers, namely infrastructure data obtained through observations using the observation sheet of facilities and infrastructure. Secondary data is data obtained by researchers from existing sources, namely documentation, school inventory data and interviews with schools. The data is collected by using observation and document analysis techniques. Observation technique is used to see directly the availability of supporting facilities to learning activities to wheelchair users.

## III. Analysis

According to the National Council for Special Education, strategies for learning and teaching children with physical disabilities are encourage independence; remove obstacles so that the student can move freely from lesson to lesson; encourage support for the student from classmates; consider physical access issues such as ramps, toilets, lifts and classroom layout; incorporate advice from the occupational therapist in the student's programme; use computers and audio-visual aids in the student's learning and teaching programme; specialized equipment may also be necessary such as adapted keyboards, page turners, word boards or special desks; if writing is difficult, consider using a tape recorder; encourage communication to prevent isolation; teach social skills if necessary; allow students extra time to complete tasks; if teaching physical education, note that slower-paced activities are better than those requiring a fast response; students will do better catching a bounced ball than a thrown one; kicking a stationary ball than a moving one; students may have a low self-image, therefore it is important to ensure that the student feels included and is encouraged and praised; as

students tend to become distracted quite easily minimize distractions in the classroom environment; if students use wheelchairs, where possible place yourself at their eye level when talking to them; table-type desks with adequate leg space will need to be considered if the student has a wheelchair; the board in the classroom may have to be lowered if the student is in a wheelchair; to facilitate students' reading, use easels, portable reading racks or adjustable desks (<https://www.sess.ie/categories/physical-disabilities>, Accessed on December 11, 2019, 5.30 pm) [8].

There are important preventative principles in relation to positioning people who spend substantial periods of time in a chair or wheelchair. These should take into account postural alignment and supporting the feet to minimize the damaging effects of pressure and shear forces when sitting. Specific consideration of the design and dimensions of a chair when seating patients will help in their postural maintenance and function. This should include the height, depth and width of the seat, the backrest height and angle, and the height and style of the armrests. A patient's sitting posture is primarily determined by the position of the pelvis in the chair, as the spine alters its position accordingly to enable the head to be held upright, and the upper and lower limbs are subsequently aligned [9]. For some reasons, many teachers will pat the wheelchair user on the head or shoulder. This is often demeaning, and the student may feel patronized by

this movement. Treat the child in the wheelchair the same way you would treat all children in your classroom. Remember that the child's wheelchair is a part of him/her, don't lean or hang off a wheelchair [10].

A counter intuitive yet prevalent finding in the literature is that wheelchair users often view their wheelchair as a barrier to physical activity despite the obvious benefits a wheelchair provides (e.g. increased access) [10]. Children with disabilities often have delayed gross motor development, less proficiency in balance and coordination and poor cardiovascular fitness compared to their peers with typical development, all of which could potentially be improved by participation in physical activity [11]. It is generally accepted that physical activity confers benefits to psychosocial health, functional ability and general quality of life (Steven Allender, Gill Cowburn & Charlie Foster, 2019; Powell KE & Pratt M, 1996) [12]. Children with physical impairments may present with walking limitations ranging from impaired walking to no walking. Often mobility aids or wheelchairs are required to compensate for these difficulties (Jackie Casey, Laura McKeown, Rachael, McDonald, & Suzane Martin, 2017 ; Cook, 2002) [13]. In the implementation of learning activities that are in accordance with physical conditions and the needs of students who experience physical barriers to wheelchair users, adequate supporting facilities are needed.

**Table. 1:** Analysis of Facilities for Children with Physical Disabilities Who Use Wheelchair in Special Schools.

Variable	Sub variable	Parameter	Assessment Score		
			3	2	1
Supporting facilities for fulfilling students with physical disabilities who use wheelchairs	Supporting facilities for adaptive sports	Availability of adaptive sports spaces for wheelchair users			
		Availability of adaptive sports equipment for wheelchair users			
	Supporting facilities in the classroom	Availability of portable reading racks or adjustable desks.			
		Availability of adapted keyboards			
		Availability of word boards or special			

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		desks			
		Availability of board in the classroom may have to be lowered if the student is in a wheelchair			
		Availability of table-type desks with adequate leg space will need to be considered if the student has a wheelchair			
		Availability of possible place yourself at their eyelevel when talking to them			
		Availability of tools to stand in the classroom			
	Facilities supporting in the school environment.	Availability of toilets for wheelchair users			
		Availability of motion therapy tools			
		Availability of consider physical access issues such as ramps			
		Availability of assistive devices for walking training			
	Obtained Score				

Assessment criteria:

- 3 = Supporting facilities are available and according with student needs
- 2 = Supporting facilities for physical activity are available, not according to student needs
- 1 = supporting facilities are not available

<p>Final Score Of Facility Availability = <math>\frac{\text{Score Obtained}}{\text{Total Score}} \times 100</math></p>
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**IV. Result**

The following is the table of research conducted to compile supporting data about the availability of the supportive facilities in learning activity for the students with physical disabilities wheelchair users in four schools chosen as a research sample.

**Tabel 2.** The Score of Supporting Facilities

No	Scoring Component	Special School			
		A	B	C	D
1	Supporting facilities for adaptive sports	3	3	3	5
2	Supporting facilities in the classroom	14	12	11	10
3	Supporting facilities in the	5	6	7	8
Obtained score		22	21	21	23

The score for the availability of supporting facilities for the students with disabilities wheelchairs users

in Special School “A” in Boyolali Regency is as follows:

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- Availability of supporting facilities for adaptive sports = 3;
- Availability of supporting facilities in the classroom = 14;
- Availability of supporting facilities in the school environment = 5
- The percentage of the availability of supporting facilities for the students with disabilities wheelchairs users in Special School is 48, 88 %.

The score for the availability of supporting facilities for the students with disabilities wheelchairs users in Special School “B” in Wonogiri Regency is as follows:

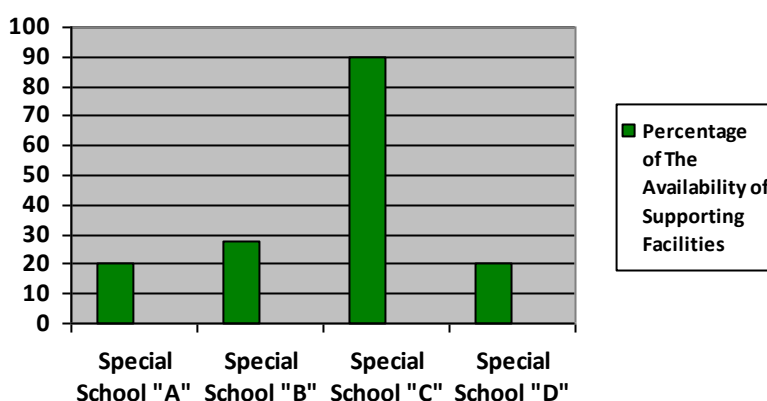
- Availability of supporting facilities for adaptive sports = 3;
- Availability of supporting facilities in the classroom = 12;
- Availability of supporting facilities in the school environment = 6
- The percentage of the availability of supporting facilities for the students with disabilities wheelchairs users in Special School is 46, 67 %.

The score for the availability of supporting facilities for the students with disabilities wheelchairs users in Special School “C” in Pati Regency is as follows:

- Availability of supporting facilities for adaptive sports = 3;
- Availability of supporting facilities in the classroom = 11;
- Availability of supporting facilities in the school environment = 7
- The percentage of the availability of supporting facilities for the students with disabilities wheelchairs users in Special School is 46, 67 %.

The score for the availability of supporting facilities for the students with disabilities wheelchairs users in Special School “D” in Karanganyar Regency is as follows:

- Availability of supporting facilities for adaptive sports = 5;
- Availability of supporting facilities in the classroom = 10;
- Availability of supporting facilities in the school environment = 8
- The percentage of the availability of supporting facilities for the students with disabilities wheelchairs users in Special School is 51, 11 %.



Graphic 1. The Percentage of the Availability of Supporting Facilities for Students Physical Disabilities Who Use Wheelchairs in Special Schools.



## V. Conclusion

The conclusion obtained in this study is that the availability of supporting activities for learning activities for students with disabilities using wheelchairs in the four special schools is still lacking or has not been fulfilled. Especially, the supporting facilities in the implementation of adaptive sports for physically disabled students who use wheelchairs and the supporting facilities for learning activities in the classroom when learning takes place. Therefore, the school should try to provide appropriate support facilities for the needs and physical conditions of students with physical disabilities wheelchair users in special schools that facilitated by special education offices and government authorities.

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