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The Effectiveness of Animation Videos to Improve the Ability to Order Numbers 1-50 for Children with Physical Impairment

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Abstrak

Penelitian ini bertujuan untuk meningkatkan kemampuan mengurutkan bilangan 1-50 bagi anak tunadaksa di SLB N 1 Pariaman dengan menggunakan media Pembelajaran *Video Animasi*. Media Pembelajaran *Video Animasi* berfungsi untuk mempermudah peserta didik untuk mengingat materi mengurutkan bilangan. Penelitian ini menggunakan pendekatan kuantitatif dengan metode eksperimen yaitu *Single Subject Research* (SSR) dan Desain A1-B-A2, Serta data dianalisis menggunakan visual grafik dengan cara memasukkan data dalam grafik yang kemudian dianalisis berdasarkan kondisi A1-B-A2. Hasil penelitian menggunakan media Pembelajaran *Video Animasi* dapat meningkatkan kemampuan mengurutkan bilangan 1-50 bagi anak tunadaksa di SLB N 1 Pariaman.

Kata Kunci: *Media Pembelajaran Video Animasi, Mengurutkan Bilangan, Tunadaksa*

Abstract

This research aims to improve the ability to order numbers 1-50 for children with physical impairments at SLB N 1 Pariaman by using Animation Video Learning media. Animation Video Learning Media functions to make it easier for students to remember the material for ordering numbers. This research uses a quantitative approach with experimental methods, namely Single Subject Research (SSR) and A1-B-A2 Design, and data is analyzed using visual graphs by entering data in graphs which are then analyzed based on conditions A1-B-A2. The results of research using animated video learning media can improve the ability to order numbers 1-50 for children with physical impairments at SLB N 1 Pariaman.

Keywords*: Learning Media Animation Video, Ordering Numbers, Physical impairments*

Introduction

Physical impairment comes from the words"tuna" which means lacking and"daksa" which means body, so it can be said that physical impairment is a deficiency in a body part or what is usually called a disability (Salsabyla and Madiun 2023). According to (Tumangger and Nurhastuti 2021), physical impairment is a condition of damage or disruption of bones, muscles and joints as a result of disturbances in their normal function. Conditions like this are usually caused by disease, accidents or can also be caused by birth defects. Meanwhile, according to (Utami, Raharjo, and Apsari 2018) Physical disability is another term for physical disability, various body deformities that result in abnormalities in the function of the body to carry out the necessary movements. Certain types of children with physical impairments are also accompanied by post-sensory disorders and intelligence disorders. Based on the above understanding, researchers can conclude that children with physical impairments are body parts that are unable to carry out their functions, so that in the learning process special services are needed.

Children with physical impairments can go to school in community settings such as special schools or inclusive schools. The child learns various subjects, one of which is mathematics. One of the materials in learning mathematics is ordering numbers. According to (Dakkar 2017) ordering numbers means writing the numbers in order from those with the largest value to those with the smallest value and vice versa. Examples of ordering your own numbers such as 1,2,3,4,5,6,7,8,9,10 or vice versa from 10,9,8,7,6,5,4,3,2,1. According to (Marfuah 2019) ordering numbers aims to improve students' own abilities to better understand and understand how to order numbers correctly. If children cannot yet understand the material for ordering numbers in mathematics, this will result in the material being given not being able to advance to the next level so that students will be left behind by their peers and classmates or students will just be stuck repeating the same material until students understand the material for ordering numbers (Alvyenti and Mahdi 2023).

Based on a preliminary study conducted at SLB N 1 Pariaman, a class VII student was found to be physically impaired. Barriers to physical impairment in students occur in the right hand, resulting in difficulty in carrying out activities with the right hand. The problem

with these students is that they are not yet able to order numbers 1-50. Students still cannot differentiate between the smallest number and the largest number so they still have difficulty ordering numbers. And there are still difficulties in ordering numbers if the numbers are random.

Based on this information, researchers are interested in conducting interventions using animated video learning media to improve the ability to order numbers 1-50. Animation Video Learning Media is a medium that displays learning material with additional audio and animation so that it attracts students' attention (Melati et al. 2023). The design of the animated video will be adjusted to the subject and also the characteristics of the students. The audio and animation shown are very interesting and make students enthusiastic and curious about the material displayed (Prakoso 2020). Meanwhile, according to (Achmad et al. 2021) Animation Video is a series of images that form a movement. One of the advantages of animation compared to other media such as static images or text is its ability to explain changes in circumstances over time. This is especially helpful in explaining procedures and the sequence of events. The advantage of animated video learning media is that it has an attractive appearance, and the pictures and colorful colors contained in the video attract students in learning (Wuryanti dan Kartowagiran 2016).

Method

The research approach used in this research is a quantitative approach with experimental methods. Experimental research is used in this research to determine whether or not there are symptoms or events from a treatment that will be given to the subjects to be studied. The experimental method used in this research is Single Subject Research (SSR).

Single Subject Research (SSR) is experimental research aimed at observing and evaluating the treatment given or interventions that have been implemented. The intervention provided is measured by how much influence it has in the form of a percentage (Indra 2021). Meanwhile, according to (Yuwono 2015) Single Subject Research (SSR) is subject research with research procedures using an experimental design to see the effect of treatment on changes in behavior. Data analysis using graphic visual analysis techniques, namely by plotting the data into a graph, then the data is analyzed based on the components in each baseline (A1), intervention (B), baseline (A2) condition (Marlina 2021).

Result and Discussion

In the research, which was carried out in 14 meetings, there were 3 stages to obtain data, namely: baseline 1 (A1) was carried out in 4 meetings, (B) intervention was carried out in 8 meetings, and (A2) baseline 2 was carried out in 4 meetings.

Baseline 1 (A1) data was obtained from observations of students with physical impairments in their ability to order numbers 1-50. In the Baseline condition, this was done 4 times with percentages of 20%, 50%, 50%, 50% with 2 assessment aspects, sorting the numbers from smallest to largest and ordering the numbers from largest to smallest. As for Intervention (B), it was carried out 8 times with percentages of 70%, 80%, 80%, 90%, 100%, 100%, 100%, 100%. Finally, in Baseline A2, there are percentage results of 90%, 100%, 100% and 100%.

Based on data collected at 3 stages, namely baseline A1, Intervention B, and baseline A2, the researcher ended the observation because the data had stabilized at the last 3 meetings at baseline (A2).

The following is a summary of the percentages in 3 conditions: Baseline (A1), Intervention(B),Baseline(A2):

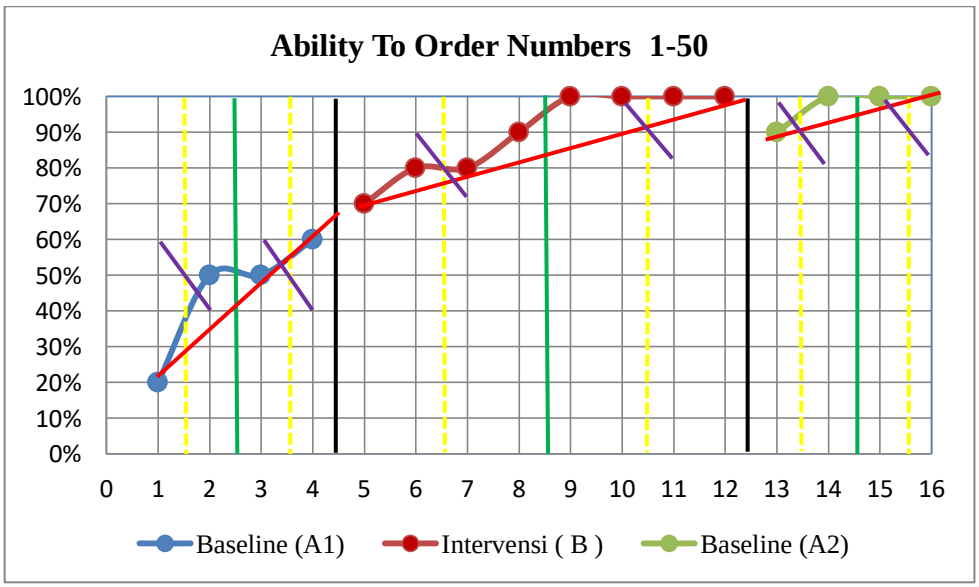


Figure 1 Graph of Directional Trend Estimates

Explanation:

Baseline (A1) =

Intervention (B) =

Baseline (A2) =

Change in conditions =

Directional Trend Estimation =

Split Middle =

Middate =

Midrate =

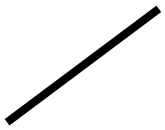
In Figure 1, based on the data written in the graph, it shows that there is an effect of changes in the ability to order numbers 1-50 for children with physical impairments after being given treatment.

Table 1. Recaptulation in Conditions

No	Condition	A1	B	A2
1.	Length of conditions	4	8	4
2.	Estimed Directional Tendency	(+)	(+)	(+)
3.	Stability Tendency	100% Stable	87,5% Stable	100% Stable
4.	Data Footprint Trends		(+)	(+)

		(+)		
5.	Stability Level and Range	Variabel 20% - 60 %	Variabel 70% - 100%	Variabel 90% - 100%
6.	Level Of Change	50 – 30 = 20 (+)	100 – 70 =30 (+)	100-90 = 10 (+)

Table 2. Recapitulation between Conditions

No	**Condition**	**A1**	**B**	**A2**
1.	Number of changed variables	1		
2.	Changes in Direction Trends and Their Effects	 (+)	 (+)	 (+)
3.	Changes in Stability Trends	Stable	Stable	Stable
4	Level of change			
	a. Level changes to condition B/A1	70% - 60% = 10%		
	b. Level change in condition B/A2	100% - 70% = 30%		

5.	Condition	
	a. Condition A1/B	0%
	b. Condition A2/B	50%

The problem in this research was that students with disabilities in Class VII SLB N 1 Pariaman had difficulty ordering numbers 1-50. They had difficulty distinguishing between randomly ordering large and small numbers.

Learning media for children with physical impairments is based on the principles of learning media, namely general principles and special principles for children with physical impairments. The general principle is that this media is appropriate because it emphasizes demonstration, children's abilities, practice, repetition and reinforcement, while the specific principles in question are the multisensory principle and the principle of individualization (Nani et al. 2018). Animated Video Learning Media is based on the principle of individualization, that is, education is provided that is appropriate to the students' abilities. Here, students with physical impairments are given this media because they still do not understand and are optimal at ordering numbers 1-50. Animation video Learning Media is based on the multisensory principle, namely that students are able to use their hearing to listen to the material presented in the animated video.

Animation Video Learning Media in this research is used to make it easier for students to remember the material for ordering numbers. The use of animated video learning media caused a change in the ability to order numbers 1-50 in student Z. This change was shown by an increase in the graph for each condition, and it can be seen that there was an increase in the ability to order numbers 1-50 after the intervention compared to before the intervention.

Based on the discussion above, the results of research data on animated video learning media are effective in improving the ability to order numbers 1-50 in class VII physically disabled children at SLB N 1 Pariaman.

Conclusion

Based on the explanation above, it can be concluded that the use of animated video learning media can improve the ability to order numbers 1-50 for children

with physical impairments in class VII SLB N 1 Pariaman. To optimize learning, it requires consistency for both students and teachers throughout the learning process.

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