Effectiveness of Using Smart Board Media to Improve the Ability to Recognize Alphabets in Children with Class II Autism Spectrum Disorders at SLB Negeri 1 Harau

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Abstract

This research was motivated by problems that researchers found at SLB Negeri 1 Harau class II. One of the GSA children who doesn't yet know all the alphabets, the letters he doesn't know yet are (j, l, t, v and w). This research aims to see whether the use of smart board media is effective as a solution in improving the ability to recognize the alphabet in GSA children. This research uses a quantitative approach with experimental methods in the form of Single Subject Research (SSR) with an A-B-A design. The results of this research can be seen in 3 conditions. First, the baseline condition (A1) was carried out 3 times with a stable percentage result of 40%. The two intervention conditions (B) were carried out 7 times with a stable percentage of 86%. The three baseline conditions (A2) were carried out 3 times with a stable percentage result of 86%. Based on the results of this research, it can be concluded that the use of smart board media is effective in improving the ability to recognize the alphabet for GSA children.

Keywords: *Smart Board Media, Recognizing Alphabets, GSA.*

INTRODUCTION

ASD is a disorder of neurological and neurological development, usually starting to appear at the age of less than 2 years (behavior, social interaction, emotional problems, language, and motor and motor perception) (Banoet, J., 2016). Some people say that ASD children are children who have their own world, because they rarely make eye contact (Iswari and Nurhastuti, 2018). Soetjiningsih, Windiani, and Adnyana (2015) argue that ASD children do not have large physical features, like other disorders, but have small physical abnormalities, such as in the ears and brain, which occur from birth. Children's brain volume increases from 15% to 20% macrocephaly at the age of 5 years. According to Irdawarni (2018), until now there is no cause for autism spectrum disorder is known, but there are several factors that are considered to be the emergence of this disorder (psychological, psychodynamic, neurological, immunological, and prenatal).

Children who experience ASD require treatment in the form of therapy and educational services related to the child's needs (Rahayu, 2014). Hermansyah and Suswonto (2016) argue that the education of GSA children uses concrete media and existing program approaches. Therefore, to pursue higher education and learning, the main lesson that must be given to children is reading. To be able to read, of course

children must first know and memorize the letters of the alphabet. If children do not know that, children will experience difficulties in following the lesson. next (Ghoziah, F. 2022). At school, children with autism spectrum disorders are given educational and non-educational learning, where educational learning consists of learning Indonesian, mathematics, science and science and other subjects. One thing that GSA children need is learning Indonesian which starts with an introduction to the alphabet (Nurhasanah, N. 2017).

Recognizing the alphabet is when someone can quickly pronounce the names of upper- and lower-case letters in the alphabet without considering each letter individually (Purwati., T. 2022). A collection of letters arranged in an order that symbolizes sounds to write a language is called an alphabet. According to Waheningtyas, P.A. (2015) letters of the alphabet consist of two forms, namely vowels and consonants, each of which has a different form and way of pronouncing it. Introducing the alphabet aims to know and build children's ability to understand the characteristics of the letters of the alphabet (Nasution, Lubis, and Daulay. 2024). By knowing the alphabet, in the future children can enter the next stage, namely reading which starts with a word and continues with a sentence (Tinova, 2023).

During the observation at SLB Negeri 1 Harau, there was a GSA student sitting in class II with the initials "MV". If we look at this student's physical condition, his body is normal, all his body parts function well, as well as his fine motor skills and gross motor skills, his eye contact does not last long and he experiences difficulty in his ability to recognize the alphabet. This was proven when "MV" was studying Indonesian literacy in recognizing the alphabet. At that time the teacher wrote the alphabet on the blackboard, then the teacher pointed and said the letter and asked the child to do it again. But MV only mentioned a few letters that he knew and for the rest MV chose to remain silent. After that the researcher conducted an interview with the homeroom teacher. The teacher said that MV, in terms of writing what was on the blackboard, MV could, but when asked what he wrote, MV couldn't answer. Mv can't read yet, because he only knows a few letters. literacy in introducing the letters a-z is completed, but when repeated it is forgotten again so that the learning occurs again.

Next, the researchers carried out an assessment to determine the ability to recognize the MV alphabet. Based on the results of the assessment, it was proven that MV did not know all the alphabet. MV doesn't know the alphabet, namely there are five consonants (j, l, t, v, and w). When naming, showing and differentiating consonant letters (j, l, t, v, and w), children prefer to remain silent and sometimes just say "what is it" while holding their head.

So, a service program is needed to improve the ability to recognize consonant alphabets (j, l, t, v, w) from the aspects of saying, differentiating and showing. Based on the results of the alphabet recognition assessment, children are in phase A in learning Indonesian. In the independent curriculum phase A, children should be able to recognize and spell combinations of letters in syllables. But it's different from MV, who only knows 21 of the 26 existing alphabets. Recognizing the alphabet is a very important initial stage in learning to read (Khajar, K, U. 2020).

From the problems described above, researchers provide a solution by using smart board media to improve the ability to recognize consonant alphabets (j, l, t, v, and w) consisting of the aspects of saying, showing and distinguishing. Smart board media is a medium (flannel board, magnetic board and so on) that teachers use as a support for teaching in conveying modified information in various forms to stimulate students' interest and thoughts in learning, consisting of a whiteboard, markers, erasers, letters. The A-Z alphabet can be attached and removed continuously and involves children directly when using it and this media aims to train children's cognitive abilities in recognizing the alphabet (Kustiawan, 2022).

This smart board media is useful for children in its use during the process of learning to recognize the alphabet (Suryanti, 2021), namely taking the child's focus on a problem being discussed, the material will be more interesting for children so that they are more interested in learning and varied learning methods make children easy to understand. The advantage of this smart board media is that it can improve children's ability to learn, children will be more active in learning because its shape is interesting and fun so it grabs the child's attention and focus, and this media can be modified according to the needs of children and teachers (Sulasminah, Hadis and Wulandari, 2022).

METHOD

This research uses a quantitative approach with experimental methods in the form *Single subject research* (SSR) with A-B-A design. SSR is experimental research which aims to see and evaluate interventions that have been carried out, the effect of the intervention will be measured to find out how big the impact is in percentage terms (Marlina, 2021). The subject of this research was an ASD child who did not yet know the alphabet (j, l, t, v and w). This research uses two variables, namely the independent variable (smart board media) and the dependent variable (ability to recognize the alphabet). The data collection techniques used are test techniques and data collection tools using percentages. The data analysis technique used is a visual graphic analysis technique by entering the data obtained into graphic form.

The research that the researcher designed was in the form of an A-B-A design which can be seen in the image below:
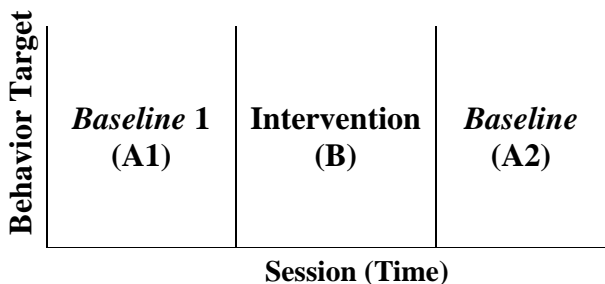

Figure 1. A-B-A design procedure

RESULTS AND DISCUSSION

This research was conducted in 13 meetings in 3 conditions. The first stage, viz *baseline* (A1) observes the child's initial ability to recognize the alphabet before being given intervention. Observations were carried out in 3 meetings starting from 25-27 June 2024 with percentages of 40%, 40% and 40%. The second stage, namely intervention (B), observes the child's condition when given treatment using smart board media to recognize the alphabet. Observations of 7 meetings starting from 28-29 June 2024, 1-5 July 2024 with percentages of 46%, 60%, 66%, 66%, 73%, 73% and 86%. The third stage, namely baseline (A2), observes the child's ability to recognize the alphabet after being given intervention. Observations were carried out in 3 meetings starting from 6 - 9 July 2024 with percentages of 86%, 86% and 86%.

Below you can see a recapitulation of research results in conditions A-B-A:
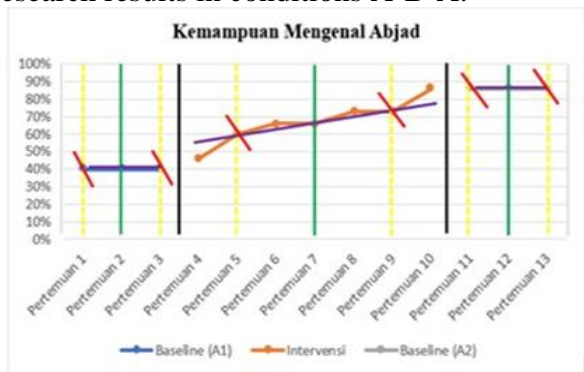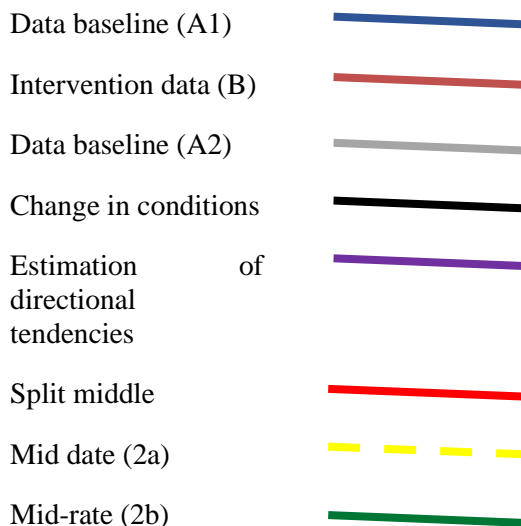

Figure 2. Directional Trend Estimated Graph

Information:

In Figure 2, based on the data described in the graph, it shows that there has been an increase in children's ability to recognize the alphabet after being given treatment. This can be seen in the child's initial ability at the first to third meetings with a score of 40%. Then in the intervention phase it starts at a score of 40% and ends at a score of 86%. Finally in phase A2 with a score of 86% in all three meetings. Based on the graph above, it can be seen that the condition for estimating the directional trend in condition A1 tends to (=) no change, condition B shows progress (+) and condition A2 shows no change (=).

Below you can see a recapitulation of the stability tendencies in the ability to recognize the alphabet (j, l, t, v and w) in each condition:

Table 1. Recapitation of stable tendencies

No	Stability Trends	A1	B	A2
1.	Stability range	6	12,9	12,9
2.	Mean level	40	67,2	86
3.	Upper limit	43	73,65	92,45
4.	Lower limit	37	60,75	79,55
5.	Stability percentage	100%	57%	100%

Table 2. Recapitulation of analysis results in conditions

Condition	A1	B	A2
Condition length	3	7	3

Estimation of directional tendencies	(=)	(+)	(=)
Stability tendencies	Stable (100%)	Unstable (57%)	Stable (100%)
Data trail tendencies	(=)	(+)	(=)
Stability level and range	Variable 40% - 40%	Variable 46% - 86%	Variable 86% - 86%
Level of change	40 – 40 = 0 (=)	86 – 46 = 40 (+)	86 – 86 = 0 (=)

Table 3. Recapitulation of analysis results between conditions

Condition	A1/B/A2		
Number of variables changed	1		
Change in directional trend	(=)	(+)	(=)
Changes in stability trends	Stable-Unstable-Stable		
Level of change			
a. Level of change in B/A1	40% - 40% = 0%		
b. Level changes on B/A2	86% - 46% = 40%		
Overlap data			
a. Percentage of data overlap in A1 with B	0%		
b. Percentage of data overlap in A2 with B	14,3%		

The results of this research are similar to the aim of this research, namely to determine the effectiveness of using smart board media in improving the ability to recognize the alphabet (j, l, t, v and w) in GSA children at SLB Negeri 1 Harau. The ability to recognize the alphabet must be mastered by children well first because later children will experience difficulties in following learning, such as spelling words and reading sentences (Ghoziah, F. 2022). To help children learn, teachers must prepare a learning model that is tailored to the child's needs, so that it is easier for the child to understand and the child's focus can be diverted to learning. One of them is using smart board media to introduce the alphabet. Smart board media is a medium (flannel board, magnetic board and so on) that teachers use as a support for teaching in conveying modified information in various forms to stimulate students' interest and thoughts in learning, consisting of a whiteboard, markers, erasers, letters. The A-Z alphabet can be attached and removed continuously and involves children directly when using it and this media aims to train children's cognitive abilities in recognizing the alphabet (Kustiawan, 2022). This smart board media is useful for children in its use during the process of learning to recognize the alphabet (Suryanti, 2021), namely taking the child's focus on a problem being discussed, the material will be more interesting for children so that they are more interested in learning and varied learning methods make children easy to understand.

From the explanation above, it is clear that this research was carried out in 13 meetings in 3 conditions. The first stage, viz *baseline* (A1) observes the child's initial ability to recognize the alphabet before being given intervention. Observations were carried out in 3 meetings with a percentage of 40%. Then in the intervention phase it starts at a score of 40% and ends at a score of 86%. Finally in phase A2 with a score of 86% in all three meetings. Finally in phase A2 with a score of 86% in all three meetings. Based on the analysis and calculations from the overlap of data above, the baseline condition (A1) with intervention (B) obtained a percentage result of 0%. Meanwhile, the baseline condition (A2) with intervention (B) obtained a percentage result of 14.3%. In calculating data overlap, it is stated that the influence of the intervention on the target behavior is greater if the overlap percentage is reduced. So, it is stated that the ability to recognize the alphabet in ASD children increases after being given intervention. This is in accordance with research conducted by Kharimah, M. R. (2023), children's ability to recognize the alphabet after being given treatment using the smart letter board media increased with a percentage score of 95%. Research conducted by Suryanti, C. M. (2021)

shows that smart board media is suitable for use in learning to recognize letters and received a percentage score of 85.71%. Therefore, it can be concluded that the use of smart board media is effective in improving the ability to recognize consonant alphabets (j, l, t, v and w) in ASD children.

CONCLUSION

Based on the discussion above, it can be concluded that there is progress in children recognizing the alphabet (j, l, t, v and w). This can be seen in 13 observations and the data was compiled and analyzed. Phase A1 was carried out in 3 sessions with results of 40%, 40% and 40%. Next phase B, 7 sessions with results of 46%, 60%, 66%, 66%, 73%, 73% and 86%. Then the baseline phase (A2) 3 sessions with results of 86%, 86% and 86%. So, it can be concluded that the use of smart board media is effective in improving the ability to recognize the alphabet (j, l, t, v and w) in class II GSA children at SLB Negeri 1 Harau.

SUGGESTION

1. It is hoped that teachers will become more skilled in improving children's ability to recognize the alphabet because this ability will affect children's reading ability.
2. Parents are more likely to support and motivate children and provide full guidance in their ability to recognize the child's alphabet at home so that the child's abilities increase.

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