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The Effectiveness of Interactive Learning Media Based on Articulate Storyline in Increasing the Ability to Understand the Concept of a Healthy Home in Children with Cerebral Palsy

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Abstrak

Penelitian ini dilatarbelakangi oleh permasalahan yang terjadi pada satu peserta didik cerebral palsy yang belum mampu mengenal konsep rumah sehat sudah berada di kelas VIII. Untuk mengatasi hal tersebut, peneliti bertujuan untuk meningkatkan kemampuan mengenal konsep rumah sehat pada anak cerebral palsy dengan menggunakan media pembelajaran interaktif berbasis articulate storyline. Jenis penelitian ini yaitu penelitian eksperimen dengan menggunakan pendekatan kuantitatif dalam bentuk Single Subject Research (SSR) berdesian A-B-A. Variabel X pada penelitian ini yaitu media pembelajaran interaktif berbasis articulate storyline, sedangkan variabel Y pada penelitian ini itu kemampuan mengenal konsep rumah sehat. Teknik pengumpulan data yang digunakan yaitu observasi, tes, dan dokumentasi. Alat pengumpulan data pada penelitian ini yaitu instrument tes berbentuk checklist. Analisis data dilakukan dengan menggunakan metode analisis visual. Hasil penelitian menunjukkan bahwa terjadi peningkatan kemampuan mengenal konsep rumah sehat pada anak cerebral palsy dengan menggunakan media pembelajaran interaktif berbasis articulate storyline. Hal ini dibuktikan dengan kondisi A1 selama 3 pertemuan anak memperoleh skor 45,4%, 45,4%, 45,4%. Kondisi B selama 7 pertemuan anak memperoleh skor 51,5%, 63,6%, 66,6%, 87,6%, 100%, 100%, 100%. Lalu, pada kondisi A2 selama 3 pertemuan anak memperoleh skor 96,9%, 96,6%, 96,6%. Setelah dianalisis, maka media pembelajaran interaktif berbasis articulate storyline terbukti dapat meningkatkan kemampuan mengenal konsep rumah sehat pada anak cerebral palsy.

Kata Kunci: *Articulate storyline*, Konsep rumah sehat, *Cerebral Palsy*

Abstract

This research was motivated by problems that occurred in one cerebral palsy student who was not yet able to understand the concept of a healthy home in class VIII. To overcome this, researchers aim to improve the ability to recognize the concept of a healthy home in children with cerebral palsy by using articulate storyline based interactive learning media. This type of research is experimental research using a quantitative approach in the form of Single Subject Research (SSR) with A-B-A

design. Variable X in this research is interactive learning media based on an articulate storyline, while variable Y in this research is the ability to recognize the concept of a healthy home. The data collection techniques used are observation, tests and documentation. The data collection tool in this research is a test instrument in the form of a checklist. Data analysis was carried out using visual analysis methods. The research results showed that there was an increase in the ability to recognize the concept of a healthy home in children with cerebral palsy by using articulate storyline-based interactive learning media. This is proven by condition A1, during 3 meetings the child obtained a score of 45.4%, 45.4%, 45.4%. Condition B during 7 meetings the child obtained a score of 51.5%, 63.6%, 66.6%, 87.6%, 100%, 100%, 100%. Then, in condition A2 for 3 meetings the child obtained a score of 96.9%, 96.6%, 96.6%. After analysis, articulate storyline based interactive learning media was proven to be able to increase the ability to recognize the concept of a healthy home in children with cerebral palsy.

***Keywords**: Articulate storyline, Concept of a healthy home, Cerebral Palsy*

Introduction

Republic of Indonesia Law Number 20 of 2003 concerning the National Education System Article 5 Paragraph 2 states that citizens who have physical, emotional, mental, intellectual and/or social disabilities have the right to receive special education. This shows that children with physical impairments have the right to education, because children with physical impairments are children who have disabilities or physical limitations. A quadriplegic child is a child who has imperfect body parts, which causes bones, muscles and joints to experience dysfunction (Faira & Nurhastuti, 2022). As a result of these movement disorders, several disabled children require special education or services, one of which is cerebral palsy.

Cerebral palsy is a type of quadriplegic that experiences paralysis of the brain, because in linguistic terms cerebral means brain, while palsy means paralyzed. Paralysis that occurs in the brain causes the brain system to not work properly so that one of the impacts is poor physical balance (Khalida et al., 2022). Children with cerebral palsy will experience problems with movement, body shape and body balance, making it difficult for them to carry out activities smoothly. The conditions experienced by children with cerebral palsy not only affect motor function, but also affect the child's cognitive function (Rosdiana et al., 2021). However, children with cerebral palsy can still go to school with special services. Special services that can be utilized by children with cerebral palsy in the field of education are inclusive schools and SLB (Special Schools). With this special service in the field of education, it opens up opportunities for children with cerebral palsy to gain knowledge and hone their skills so they can carry out the tasks of life as human beings. The process of imparting knowledge is specifically designed to suit the needs of each child because each child has different obstacles. Through this special design, children with cerebral palsy can learn various kinds of material, one of which is material about getting to know the concept of a healthy home in science and science learning which applies to the independent curriculum.

Based on a preliminary study carried out by researchers at SLB N 1 Alahan Panjang, several students were found with cerebral palsy. Of these children, there is one student with the initials DK who has hemiplegic type cerebral palsy based on the results of identification carried out by researchers. Through the results of the identification that has been carried out, it is clear that the student is experiencing movement disorders on one side, while on the other side he is not experiencing any problems. This is in line with the definition of hemiplegic type of cerebral palsy, which means that the individual experiences paralysis on one side of the limb.

In the teaching and learning process of theoretical subjects, teachers more often use the lecture method, especially in science and science subjects. However, when studying during skills hours, DK students seemed enthusiastic and active because the teacher used interactive learning media. This is the reason researchers chose articulate storyline-based interactive learning media to improve the ability to recognize the concept of a healthy home, because the use of learning media can function as a tool for presenting learning material which can be delivered in visual, audio and even multimedia form (Moraza & Nurhastuti, 2021) .

The results of the preliminary study above are supported by the results of interviews with class teachers conducted by researchers. Based on information from the class teacher, DK students in theoretical learning experienced difficulties due to being late for school. DK started school when he was 21 years old, so it had an impact on the child's academic development. However, the academic abilities of DK students can still be improved, as can be seen from the development of these students when they first entered school until now they have entered their seventh year. There has been a lot of improvement both in terms of academics and motor skills. The impact of the delay in academic development is that the learning achievements of DK students are lowered according to the child's current abilities obtained from the assessment results.

Researchers conducted assessments 3 times from 5 – 7 October 2023. The assessment instruments were prepared based on learning outcomes. The researcher grouped the assessment indicators based on the essential material listed in the learning outcomes of the science and science subjects in phase B. The essential material used in the assessment was material about animals, plants, objects, family, money, a healthy house and a healthy environment. Based on the results of the three assessments carried out by researchers, it can be concluded that DK students are not yet competent in the material about healthy homes because they consistently get a score of 46.6%. The value obtained by DK is below the threshold value. Students can be said to be complete if the score obtained is above 66% (Anggraena et al., 2022). Meanwhile, in other materials, DK students obtained scores above the threshold.

When the assessment process takes place, DK students are able to answer questions according to the indicators that have been developed by the assessors from the thirteen learning objective points in phase B of the Science and Technology subject. However, with the aim of learning to know the concept of a healthy home, DK students were not able to answer questions related to the meaning of a healthy home, the benefits of a healthy home, the criteria for a healthy home, and the shape of a healthy home. From the explanation above, it can be concluded that the learning outcomes in the science and science subjects phase B have not been fully mastered by DK students. There was only one learning objective that he had not been able to achieve, namely the learning objective of getting to know the concept of a healthy home as evidenced by the results of the students' answers not being correct regarding the concept of a healthy home. This is the background for the author to find out more about increasing the ability of class VIII cerebral palsy students in recognizing the concept of a healthy home through interactive learning media based on articulate storyline.

Method

The type of research in this research is experimental research using a quantitative approach in the form of Single Subject Research (SSR). The design used in this research is a reversal design. Researchers want to compare conditions

before and after intervention. Therefore, researchers used the A-B-A design. The subject of this research was one child with cerebral palsy, hemiplegic type, with the initials DK, male, class VIII at SLB N 1 Alahan Panjang.

Data collection techniques are carried out using observation, tests and documentation. The data collection tool used was a test instrument in the form of a checklist. In the test instrument, there are three assessments. If the student is capable then the value is 3, if the student is able with assistance then the value is 2. However, if the student is not capable at all, then the value is 1 (Yuwono, 2020). After the data is collected, the score obtained is calculated in the form of a percentage. The formula used to calculate student ability scores is as follows:

$$\frac{\boldsymbol{acquisition\ score}}{\boldsymbol{total\ score}} \times \mathbf{100}\%$$

In this research, data analysis was carried out using a visual analysis method, where the data was presented in graphic form consisting of analysis within conditions and analysis between conditions. Analysis in the conditions in question is examining changes in data in one condition, for example baseline or intervention conditions. Meanwhile, inter-condition analysis examines changes in data between conditions, for example baseline conditions to intervention conditions (Yuwono, 2015).

Results and Discussion

The implementation stage of this research consists of three conditions. The first condition (baseline/A1) is the students' initial ability to recognize the concept of a healthy home without being given any intervention. The second condition (intervention/B) is the students' ability to recognize the concept of a healthy home when given intervention using articulate storyline-based interactive learning media. The third condition (baseline/A2) is the students' ability to recognize the concept of a healthy home after being given intervention/without being given any further intervention.

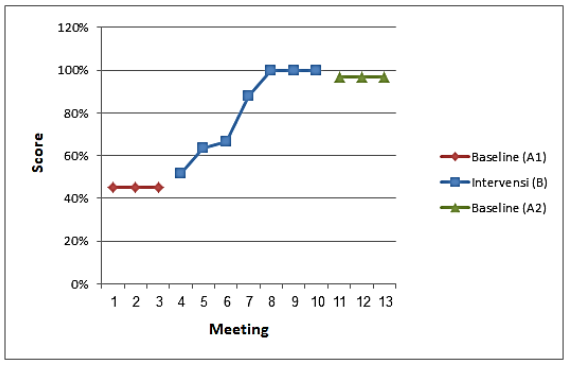
In implementing baseline conditions (A1), research subjects were given questions about the concept of a healthy home. From these questions, research subjects were asked to explain the meaning of a healthy house, the benefits of a healthy house, state the criteria for a healthy house, and show pictures of parts of the house that meet the criteria for a healthy house. The percentage score obtained from meetings 1 – 3 was 45.4% respectively. The research subjects were not able to explain the meaning of a healthy house, were not able to explain the benefits of a healthy house, were not able to state the criteria for a healthy house, and were only able to show 2 pictures correctly out of 8 pictures of parts of the house that met the criteria for a healthy house.

Furthermore, during the implementation of intervention conditions (B), research subjects were given interactive learning media based on an articulate storyline about the concept of a healthy home. Articulate storyline is a learning media designed to convey learning material between teachers and students by utilizing various features such as audio, video, photos, triggers, animation and so on, so that it can increase creativity and make it easier for teachers to design learning (Rafmana et al ., 2018). The use of articulate storyline-based interactive learning media is in accordance with the learning principles of cerebral palsy children as research subjects where these children need multisensory learning principles to help them understand the material because cerebral palsy children experience quite a lot of sensory disturbances (Wardani, 2019) . Before the learning media is used, the researcher explains the steps for use to the research subjects, and then puts them into practice. During this intervention condition, the

ability to recognize the concept of a healthy home in research subjects increased because the percentage scores obtained from meetings 4 – 7 amounted to 51.5%, 63.6%, 66.6%, 87.8%, 100%, 100%, 100%.

In implementing baseline conditions (A2), research subjects were given questions about the concept of a healthy home without providing further intervention or without using interactive learning media based on an articulate storyline. The percentage score obtained slightly decreased from the last score in the intervention condition, namely 96.9% respectively from meetings 11 – 13.

Obtaining data from each condition above, namely when the baseline condition (A1), intervention condition (B), and baseline condition (A2) can be depicted through the following graph:



Graph 1. Recapitulation of Ability to Know the Concept of a Healthy Home in Conditions A1 – B – A2

As a result of the ability to recognize the concept of a healthy home above, data analysis will then be carried out. Data analysis is the process of classifying data so that it can be analyzed as an explanation of research results (Ardisal & Damri, 2013). The results of data analysis are used to measure the ability to recognize the concept of a healthy home in research subjects. In this research, data analysis was carried out under two conditions, including analysis within conditions and analysis between conditions. Below is a summary of the results of the analysis within conditions and between conditions of the ability to recognize the concept of a healthy home using articulate storyline based interactive learning media in children with cerebral palsy.

Table 1. Results of Data Analysis in Conditions

No	Condition	A1	B	A2
1	condition length	3	7	3
2	Directional Trend Estimation	(=)	(+)	(=)
3	Kecenderungan Stabilitas Data	100% (stable)	14,28% (unstable)	100% (stable)
4	Data Stability Trends	(=)	(+)	(=)
5	Stability Level and Range	Stable 45,4% - 45,4%	Unstable 51,5% - 100%	Stable 96,9% - 96,9%
6	Level of Change	45,4 – 45,4 = 0 (=)	100 – 51,5 = 48,5 (+)	96,9 – 96,9 = 0 (=)

Based on the analysis in baseline conditions (A1), the required condition length is 3 points/meeting. The estimated directional trend in this condition is flat (=) which is determined using the split-middle method. The trend of data stability for baseline condition A1 is stable because it gets a score of 100% because if the stability percentage is above 85% then it can be declared stable (Yuwono, 2020). The trend of the data trace in baseline A1 is flat (=). Stability levels and ranges indicate stable data. The level of change in this condition does not change so it is marked (=).

In the intervention condition (B), the length of the condition is 7 points/meeting. The directional trend estimate shows an increase (+) determined using the split-middle method. The tendency for data stability in this condition is unstable because it gets a score below 85%, namely 14.28%. The trend of trail data on intervention (B) is increasing (+). Stability

levels and ranges indicate unstable data. The level of change in this condition experiences increasing changes (+).

In the baseline condition (A2), the length of the condition is 3 points/meeting. The estimated directional trend in this condition is horizontal (=) which is determined using the split-middle method. The trend of data stability in baseline conditions (A2) shows stability because it gets a score above 85%, namely 100%. The tendency of the data trace in this condition is flat (=). Stability levels and ranges indicate stable data. The level of change in the intervention condition (B) did not change (=).

Table 2. Results of Inter-Condition Analysis

No	Comparison of conditions	A1/B/A2		
1	The number of variables changed	1		
2	Perubahan kecenderungan arah dan efeknya	(=)	(+)	(=
3	Changes in directional trends and their effects	Stabil	Tidak stabil	Stabil
4	Level change a. Condition B/A1 b. Condition B/A2	 51,5% - 45,4% = 6,1% 96,9% - 51,5% = 45,4%		
5	Overlap percentage a. Conditions A1 and B b. Conditions A2 and B	 0% 42,85%		

Based on the analysis between conditions, the number of variables changed is one. Changes in directional tendencies can be adjusted to the existing data in the analysis under conditions, namely flat (=), increasing (+), and flat (=). Changes in trend and stability between conditions show stability in A1, instability in B, and stability in A2. The change in level from baseline conditions (A1) to intervention conditions (B) was 6.1%. Meanwhile, from the intervention condition (B) to the baseline condition (A2), there was a change in level of 45.4%. The percentage of overlap in condition A1 and condition B is 0%, while the percentage of overlap in condition A2 and condition B is 42.85%. This shows that providing intervention has an effect on target behavior because it has increased, because the smaller the percentage of overlap produced, the better the effect of the intervention on target behavior.

Conclusion

This research was conducted in 13 meetings. 3 meetings in baseline conditions (A1) obtained a percentage score of 45.4%, 45.4%, 45.4%. 7 meetings in the intervention condition (B) obtained a percentage score of 51.5%, 63.6%, 66.6%, 87.8%, 100%, 100%, 100%. 3 meetings in baseline conditions (A2) obtained scores of 96.9%, 96.9%, 96.9%.

From the percentage scores obtained for each condition above, it can be concluded that providing intervention using articulate storyline-based interactive learning media can improve the ability to recognize the concept of a healthy home in class VIII cerebral palsy children at SLB N 1 Alahan Panjang.

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