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Learning Media Innovation to Improve the Ability to Remember Hijaiyah Letters for the Deaf

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Abstract: Deaf people have difficulty in remembering things that are abstract so it is absolutely necessary learning media that can help the subject matter more concrete. The purpose of this study is to prove the effectiveness of Bhilar learning media in improving the ability to remember hijaiyah letters in deaf people. The research uses a quantitative approach to the Single Subject Research (SSR) method of A-B-A design. The subjects of this study were DN (12 years old) and OC (11 years). Based on the results of data processing, the baseline phase level mean 1 (A1) was obtained in the DN subject by 18.43% and OC by 15.62%. Mean intervention phase level (B) in DN subjects was 67.22% and OC was 58.89%. Mean baseline phase level 2 (A2) in DN subjects by 95% and OC by 86.87%. Then it can be concluded that Bhilar learning media proved effective in improving the ability to remember hijaiyah letters because Bhilar learning media uses visual imagery that forms mental images of information.

Keywords: Adobe Flash Media; Ability to Remember; Hijaiyah letters; Deaf Child

INTRODUCTION

Deafness can be interpreted as a state of hearing loss that results in a person unable to capture various stimuli, especially through his sense of hearing (Somantri, 2006: 93). This confusion has an impact on language and speech skills (Somad and Hernawati, 1995: 35). Delphie (2006: 104) states that "There is a close relationship between the absence of hearing and the deterioration of one's language development".

Memory is the ability to associate, store, and reawaken experiences (Somad, 1995:12), the ability to associate the ways in which we retain and draw experiences from the past for use today (Tulving & Craik, 2000). Hijaiyah or Arabic letter is a letter that has existed for a long time that is used by Muslims all over the world to read the Quran. The number of Hijaiyah Letters that are generally known to be 28 letters, ا ب ت ث ج ح خ د ذ ر ز س ش ص ض ط ظ ع غ ف ق ك م ن و هـ ي but there is an addition of the letters "ء "and "lam alif" so as to make the number 30 letters (Musa, 2012).

Learning media is everything that can be used to channel messages (learning materials), so as to stimulate the attention, interests, thoughts and feelings of students in learning activities to achieve certain learning goals (Jennah, 2009: 2)

Bhilar is one of the learning media that uses Adobe Flash. Adobe Flash is a software that has the advantage of offering extensive interactivity (Olivier, 2010: 1), multimedia software developed by macromedia to create animation, entertainment, and interactive website Sunyoto (2010: 1), and included in multimedia-based learning media that processes animation (Daryanto, 2010: 53).

The results of a preliminary study at SLB Negeri Cicendo Bandung City obtained data that deaf students in class IV only know 5 letters hijaiyah (اَ بَ تَ جَ خَ). This is not in accordance with the basic competence of PAI class 3 and 4 scope of the Qur'an and Hadith

which states that deaf children are able to know the letters of the Qur'an (recite, write, and read) and know the verses of the Qur'an (reading and writing).

As explained earlier that the letter hijaiyah is a letter in Arabic (Quran) that is rarely used in everyday conversation. For deaf children, this hijaiyah letter is abstract and difficult to remember so a special way to petrify them is needed. One of the special ways that is intended is by the attachment of meaningful elements (Ormrod, 2009: 300). This hijaiyah letter is attached to objects that are commonly seen by children in everyday life whose shape is almost similar to the hijaiyah letter. For example, shoes-tho, banana-ro, and moon-da. To help the abstraction power of deaf children who are lacking, then presented visual projection of these objects which according to Dewhurst (1994) is declared very effective for storing information.

Gunawan (2019) created a hijaiyah letter recognition application for early childhood. Agusten, Supriyatin, and Sa'diyah (2015) made an application for hijaiyah letters and Arabic numerals, Yudhistira & Widiarina (2019) made an application to recognize hijaiyah letters and numbers and equipped with games. Rosmaidah & Destiana (2017) created an interactive animation learning to know hijaiyah letters. Applications that have been made as large as possible for children in general by displaying hijaiyah letters have been named fathah / kasroh / dhomah. Researchers have not seen apps made specifically for deaf children involving objects commonly seen in everyday life. Based on this, researchers tried to create a computer-based Bhilar learning medium that involves objects commonly seen in everyday life for deaf children using the Single Subject Research (SSR) method of A-B-A design.

METHOD

Researchers use a quantitative approach of experimental methods with a single subject or Single Subject Research (SSR). The SSR design used in this study is A-B-A. The procedure for implementing the A-B-A design in this study is to first determine the behaviour to be changed as a target behaviour that can be observed and measured, in this case the child's ability to remember 16 hijaiyah letters that have similar shapes and fathah values.

The subjects in this study were 2 4th grade light deaf students at SLB Negeri Cicendo Bandung City who were located on Cicendo street number 2 Babakan Ciamis village, West Java province zip code 40117 telephone number 022-4211855. The instruments used in this study are objective writing tests (matching and short stuffing) and oral tests. Validity Test through expert-judgement (assessment carried out by experts or experts who are competent in their fields).

The data collection techniques used in this study are with objective write tests (matching and short stuffing) and oral tests. The objective test that researchers use is the Non-Guessing Formula (without guessing formula). Each correct answer is given a score of 1 and the wrong answer is given a score of 0. The oral test that researchers use is a rating scale (multilevel scale). The scale of the assessment criteria in this study is 0 if the child is not able to answer, 1 if the child answers but is wrong, 2 if the child is able to hint and read hijaiyah letters with help, 3 if the child is able to hint and read hijaiyah letters without assistance.

The data that has been processed is then analyzed. The method used in analyzing the data of the results of this study using direct observation of the data displayed in tables and graphs. The data that has been collected, then analyzed with certain calculations that can be accounted for naturally.

This calculation is done by analyzing the data in conditions and between conditions. The components that must be analyzed under conditions are (1) Condition length (2) Directional tendency, (3) Level of stability (stability level), (4) Rate of change (level change), (5) Data trace (data path), and (6) Range (range). While the components of analysis between conditions include (1) Variables that are changed, (2) Changes in directional tendencies, (3) Changes in stability and effect, (4) Changes in data levels, and (5) Overlapping data (overlap).

RESULT AND DISCUSSION

Result(s)

Baseline 1 (A1) is the condition in which measurements of target behavior are carried out in a natural state before any intervention is given (Sunanto, et al.., 2006: 41). Baseline 1 (A1) is done by providing research instruments with memory skills in the form of writing tests (matching and writing hijaiyah letters) and oral tests (reading) to DN and OC subjects for four sessions where one session is 20 minutes long.

Intervention (B) is the condition when an intervention has been given and the target behavior is measured under that condition" (Sunanto, et al.., 2006: 41). The intervention was carried out using Bhilar media of hijaiyah letters for nine sessions where one session duration was 40 minutes.

Baseline 2 (A2) is the condition in which measurements of target behavior are carried out in a natural state after any intervention" (Sunanto, et al.., 2006: 44). Baseline 2 (A2) is done by providing the instrument research on the ability to remember hijaiyah letters in the form of writing tests (matching and writing hijaiyah letters) and oral tests (reading) to DN and OC subjects for four sessions where one session duration is 20 minutes.

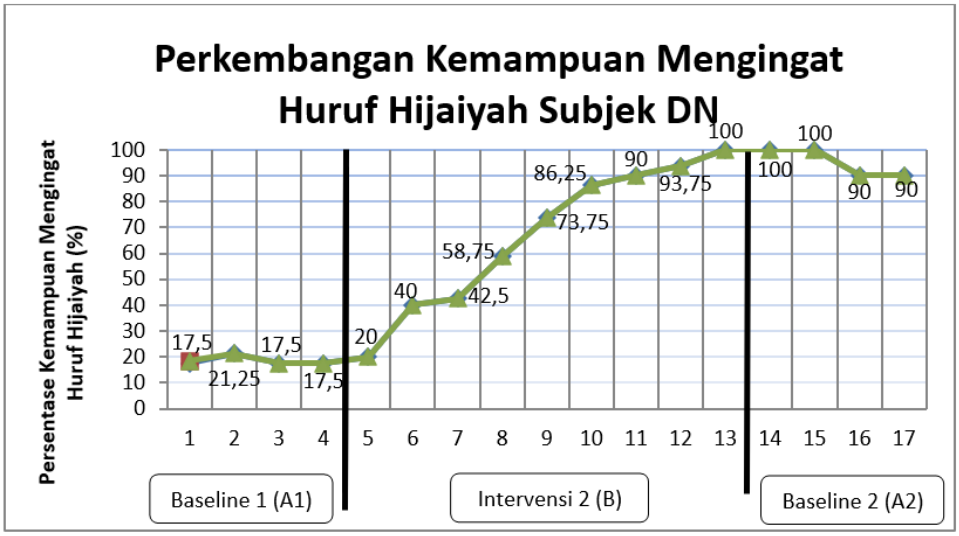

Figure 1. Development of Ability to Remember Hijaiyah Letters DN subjects

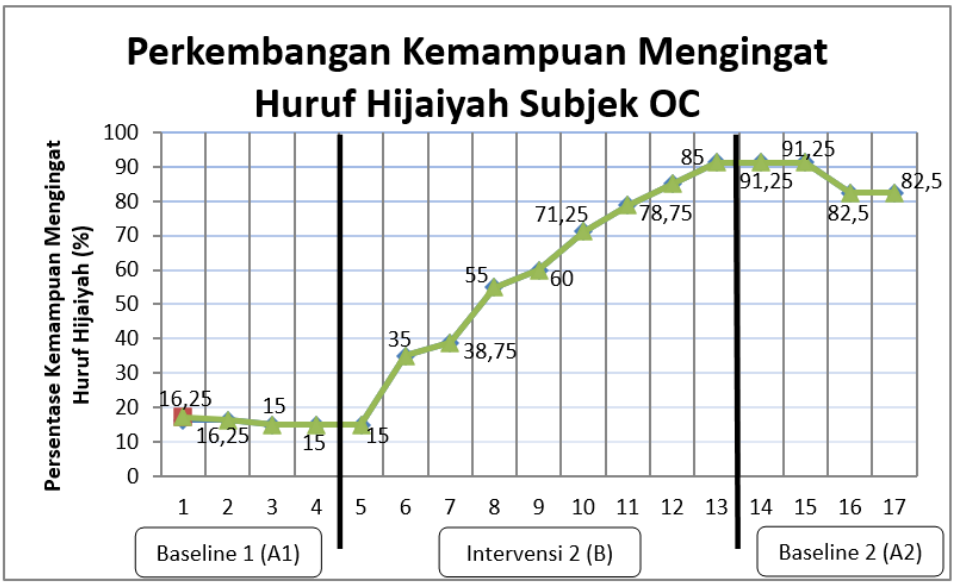

Figure 2. Development of Ability to Remember Hijaiyah Letters OC subjects

Analysis in conditions is the analysis of data changes in a condition e.g. baseline conditions or intervention conditions" (Sunanto, 2006: 68).

Table 1. Visual Analysis Results Under DN Subject Conditions

No.	Condition	A1	B	A2
1.	Length of Condition	4	9	4
2.	Estimated Directional Tendency	-	+	-
3.	Stability Tendency	Stable 75%	Variable 11,11%	Stable 100%
4.	Data Traces	-	+	-
5.	Stability and Range Levels	Stable 17,5%-21,25%	Variable 20%-100%	Stable 90%-100%
6.	Level Change	17,5%-17,5% 0% (=)	100% - 20% 80% (+)	100% -90% 10%(-)

Table 2. Visual Analysis Results Under OC Subject Conditions

No.	**Condition**	**A1**	**B**	**A2**
1.	Length of Condition	4	9	4
2.	Estimated Directional Tendency	-	+	-
3.	Stability Tendency	100% Stable	22,22 % Variable	100% Stable
4.	Data Traces	-	+	-
5.	Stability and Range Levels	Stable 15%-16,25%	Variable 15%-91,25%	Stable 82,50%-91,25%
6.	Level Change	16,25% - 15% 1,25 (-)	91,25% - 15% 76,25% (+)	91,25% - 82,50% 8,75%(-)

Analysis between conditions is a change between conditions, for example from baseline conditions to intervention conditions.

Condition Comparison	**Subject**	**B/A1**	**A2/B**
Number of Variables	DN	1	1
	OC		
Changes in tendencies and their effects	DN	- +	+ -
	OC		
Change in stability	DN	Stable to Variable	Variable to Stable
	OC		
Level change	DN	20% - 17,5% 2,5% +	100% - 100% 0% =
	OC	15% - 15% 0% =	91,25% - 91,25% 0% =
Data *overlap*	DN	$\frac{1}{9} \times 100\% = 11.11\%$	$\frac{0}{4} \times 100\% = 0\%$
	OC	$\frac{1}{9} \times 100\% = 11.11\%$	$\frac{0}{4} \times 100\% = 0\%$

Discussion(s)

To help the process of remembering hijaiyah letters, researchers displayed images that children usually see in everyday life that are almost similar in shape to hijaiyah letters. This refers to Ormrod (2009: 283) which states that one way to learn declarative knowledge in order to get into long-term memory is by visual imaging (Visual Imagery).

Here is an overview of Bhilar Learning Media.

Figure 1

Figure 2

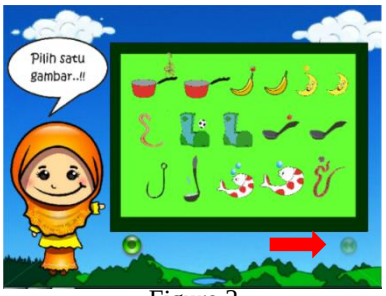

Figure 3

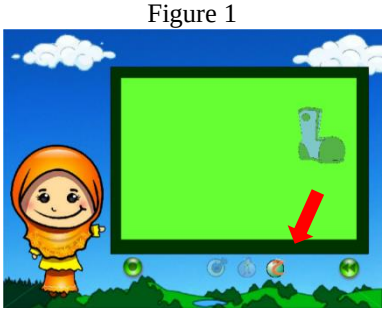
Figure 4

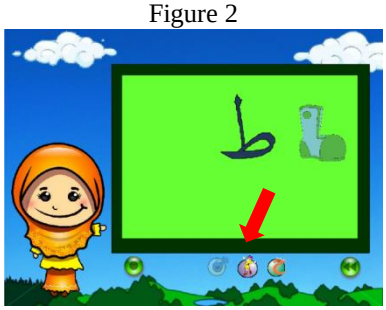
Figure 5

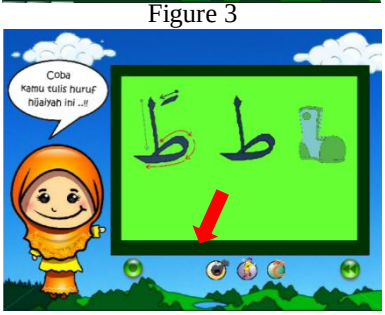

Figure 6

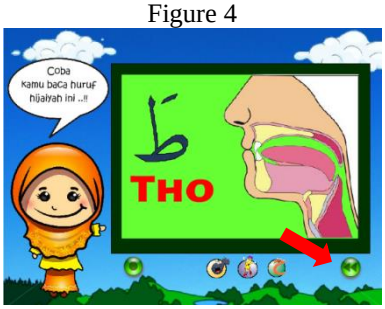

Figure 7

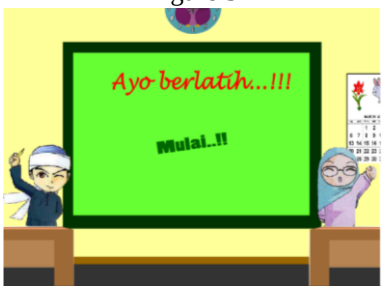

Figure 8

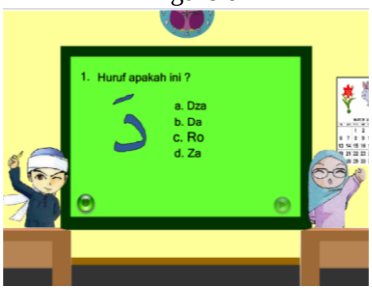

Figure 9

Figure 10

Figure 11

Figure 12

Image Explanation:

1. Sign in to the Adobe Flash program. On the first screen are provided 2 options, study or practice. Children are asked to choose a learning menu first. If clicked, it will appear as on the second screen.
2. Before learning, children are asked to pray first so that the learning process becomes more blessed. Then click the button indicated by the arrow and it will appear as in the 3rd screen.

3. On the 3rd screen, 16 images of objects are provided that are almost similar in shape to hijaiyah letters. If the child clicks on one of the images, then the image will enlarge while the other image will disappear.
4. For example, on the 3rd screen the selected image is a boot, then the image will enlarge while the other image will disappear from the screen. If the child clicks on the image indicated by the arrow, a skeleton of hijaiyah will appear. Look at the image on the 4th screen
5. To bring up the framework of this hijaiyah letter can be done over and over again until it feels enough. If the child clicks on the image shown by the arrow, then the child will be guided how to write the correct hijaiyah tho (طَ) letter. Look at the image on the 6th screen
6. How to write the letter hijaiyah tho (طَ) can be displayed repeatedly until it is enough. After paying attention to how to write the letter hijaiyah tho (طَ) with the correct fathah value, then the child is asked to write the hijaiyah letter on the paper that has been provided. After writing on the sheet of paper, the child is asked to click on the image designated by the arrow.
7. After clicking on the image designated by the arrow, the child will learn how to read the hijaiyah letter. On this screen is displayed hijaiyah letters, Latin letters, and makhrojul images of tho letters (طَ). In addition, there is also the sound of the letter tho (طَ) which can be sounded over and over again. Return to screen 3 which displays 16 images of objects whose shape is almost similar to the letter hijaiyah by clicking the button indicated by the arrow. The process of the other 15 images is the same as that described in points 4, 5, and 6.
8. After all the images are selected, it will be given a game to mature the child's memory by clicking on the exercise menu. Here's the initial look after clicking on the exercise menu. Click "start" and a new screen will appear.
9. The child is asked to read the question and then choose an answer.
10. If the child's answer choice is correct, as mille image will appear that says "correct" and the child can proceed to the next question by clicking the button indicated by the arrow.
11. If the child's answer choice is wrong, it will appear a sullen smile image that says "wrong" and automatically the child cannot proceed to the next question because the button indicated by the arrow becomes inactive.
12. After completing the 16 existing questions, a COMPLETE view will appear

Visual shading forms a mental picture of an object or idea can be a very effective method of storing information (Dewhurst et al, 1994). The mnemonic technique presented by Solso, et al. (2007: 226) was also proven to increase the storage and retrieval of information in memory. The technique used is the keyword method and attachment of meaningful elements (a technique of attaching meaningful visual or verbal organization-a form, word, sentence, rhythm, poetry, or story that is familiar to information). Learning media can be used to attach meaningful elements and interactive visual projection, namely Bhilar. Bhilar using Adobe Flash belongs to the category of interactive multimedia where users can choose freely what is desired for the next process (Daryanto, 2010: 51). This interactive advantage is what other learning media do not have. This research is also supported by other studies such as Nisa Nurmalani and Musjafak Assjari (2017) which stated that the use of Adobe flash media affects the ability to read hijaiyah letters in cerebral palsy children. The method used is single subject research with ABA design with descriptive statistical data collection techniques and displayed in graphic form. However, this turned out to be contrary to Dalhayat, Kurniaman, and Septyanti (2021) who stated that there was no influence of adobe flash-based interactive media on the ability to listen to PGSD students in the class of 2018 FKIP University of Riau. His

research used the pre-experimental design method with the form of one group pretest-posttest design design.

CONCLUSSION

Based on the results of processing and analysis of the data as a whole, Bhilar learning media proved effective in improving the ability to remember hijaiyah letters of deaf children.

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