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The Effectiveness of the Mnemonic Method on the Ability to Read Hijaiyah Letters in Mentally Disabled Children

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ABSTRACT

This study aims to test the effectiveness of the mnemonic method on the ability to read hijaiyah letters in mentally disabled children. The design used in this study is an interrupted time series design. The research subjects were 3 mentally disabled students at SMPLB Siwi Mulia Madiun. Measurement of the ability to read hijaiyah letters in students was carried out repeatedly before and after treatment to see the consistency of the condition of the research subject. The normality test in this study used the Shapiro-Wilk test with a significance value of 0.56, which means the data is usually distributed. Meanwhile, the hypothesis testing used the paired sample Ttest with a score (t = -18.0, p = 0.003), (t = -5.9, p = 0.027), (t = -11.1, p = 0.008) or all p values were smaller than 0.05 means that there is a significant difference between the results of the pre-test and post-test, where the post-test score is higher than the pre-test score. The findings of this study proved that effective mnemonic methods improve the ability to read hijaiyah letters in mentally disabled children.

ARTICLE INFO

1. INTRODUCTION

Mental retardation is a condition of children whose intelligence is far below average and characterized by limited intelligence and an inability to communicate socially. Mentally disabled children are also often known as mentally retarded, due to their limited intelligence. As a result, it is difficult for mentally disabled children to attend education in regular schools (Hasan, 2016). According to the World Health Organization (World Health Organization) and APA (American Psychiatric Association) explained that conceptually the definitions, criteria, and in the DSM-V, intellectual disorder or mental retardation is a disorder of intellectual development; this disorder appears in the period of development and includes limited functioning cognitive and adaptive in perceptual, social and practical domains (American Psychiatric Association, 2013). For the conceptual determination of intellectual disability or mental retardation, definitions, criteria, and diagnostic procedures refer to the DSM-V, the World Health Organization (WHO), and the American Psychiatric Association (APA) for widespread use (Carr et al., 2016). Mentally disabled children are children with limited developmental conditions. Their learning ability is different from other normal children. Specific assistive methods and technologies are needed to support teaching children with special needs (Afrianto et al., 2019).

According to data on the management information system for persons with disabilities (Ministry of Social Affairs, 2021), based on the variety of disabilities in Indonesia, the number of mentally disabled people has reached 13,138 people. While persons with disabilities at the school-age stage (6-18 years) reach 23.4%. This proves that it is essential for children with disabilities, incredibly mentally retarded, to get attention, especially in education. In the education of children with special needs, mentally disabled children need special treatment and extra attention from their teachers because they are different from normal children. Islamic education is essential for children, and Muslims must learn hijaiyah letters. At least every Muslim can read Arabic letters to read the Qur'an (Fiqhi et al., 2020). Arabic letters, also called hijaiyah letters, are used in Arabic (Rachmayanti, I., & Alatas, 2020). Therefore, to learn Arabic properly, it is necessary to learn Arabic letters first (Prihartini et al., 2018). This Arabic letter is also used in the "Al-Qur'an Al-Karim," the holy book of Muslims. Based on this point of view, it can be concluded that learning Arabic letters is essential and vital to learning learn the language and the Qur'an.

Reading hijaiyah letters is different from reading Latin letters. Basic Hijaiyah letters using language (Arabic), which is not the mother tongue, become more challenging to learn, especially for mentally disabled children with cognitive abilities below the average normal child. There are various methods, media, and teaching materials for learning Arabic letters. However, not all of these things can be applied to learning Hijaiyah letters for children with special needs, incredibly mentally retarded. Even though Children with Special Needs students have a level of intelligence that is almost the same as regular students (Fadila & Al Irsyadi, 2021). However, functional development is influenced by the level of language skills, limited information, and children's abstraction power. Thus, it is still possible for Children with Special Needs students to learn Hijaiyah letters (Ishmi, 2021).

Learning Hijaiyah letters to mentally disabled children can be done using fun methods, so children are more interested in learning and remembering them quickly (Siswanti, 2012). Teaching reading Arabic texts to students with learning difficulties (such as mental retardation) using information and communication technology media can increase students' self-esteem and high self-confidence (Sbai et al., 2018).

Based on the results of initial observations made on mentally disabled children at the Siwi Mulia SLB Madiun City, it was found that mentally disabled children had difficulty reading Hijaiyah letters. Even though fluency in reading hijaiyah letters is the primary basis for learning the Qur'an and knowledge of Arabic script is needed as Muslims and social beings. In this study, researchers used the mnemonic method to improve the ability of mentally disabled children to read hijaiyah letters. Previous research has used various methods in learning to read hijaiyah letters. Among them, the use of the Gillingham method to help mentally disabled children recognize hijaiyah letters with an interactive visual, auditory, kinesthetic, and tactile (VAKT) and augmented reality application approach has been shown to increase the ability of mentally disabled students to read hijaiyah letters (Afrianto et al., 2019). However, the use of the interactive application method has yet to be maximized; this is indicated by an increase in the capacity of the results of the ability to learn hijaiyah letters by 6%. In addition, research uses the Quantum teaching-learning model (Sari et al., 2019) and magnetic board media in learning hijaiyah letters for mentally disabled children but still needs a variety of other more effective methods (Hasan, 2016). In this study, selecting the mnemonic method as a learning strategy can help strengthen students' memory because it is easy to learn. The mnemonic method is widely known and considered an integral part of the compelling method of memorizing foreign language vocabulary (Kayaaltı, 2018; Parima et al., 2018; Wei, 2015). Foreign researchers reveal the strengths and weaknesses of this method in various studies. Some of them, including Amiryousefi and Ketabi, agreed that the mnemonic method could be a solution for memorizing second-language vocabulary. However, some underlined that this method could not completely replace other memorizing methods because each individual's brain capacity is different (Sari, 2018). Mnemonics are a strategy for encoding information so that it can be stored in long-term memory (intermediate long-term memory) properly and facilitates the process of retrieving information (Purnamasari, 2018). As with Gagne's learning theory, learning refers to students being able to remember in the long term and apply it in related situations (Jaiswal, 2019; Reduzan et al., 2020). Then the formulation of the problem is made, namely whether there is an effect of the mnemonic method on the ability to read hijaiyah letters in mentally disabled children. This study aims to determine the effectiveness of the mnemonic method on the ability to read hijaiyah letters in mentally disabled children. The benefits of this research are expected to be a consideration for teachers, parents, and therapists in teaching mentally disabled children related to learning hijaiyah letters.

2. METHODOLOGY

The subjects of this study were mentally disabled students at the Siwi Mulia SLB Madiun City SMPLB-C level, namely 3 people. The selection of research subjects was based on the initial observations of researchers who met the criteria. The reason researchers used subjects in a small group was to be able to see in detail changes in the ability to read hijaiyah letters in each individual by seeing the effect of the intervention more quickly.

The experimental design used an interrupted time series design. The research subjects were given a pretest three times to know the consistency of the research subject's condition before being given treatment. If the results of the pretest scores are consistent, then they are worthy of being research subjects. After the subject's state is known, the subject is given treatment. After the treatment was finished, the intervention group was given a posttest three times, hoping that the condition of the subjects would be known after being given treatment. The score comparison was seen before and after being given treatment. The

research instruments used in this study were multiple-choice written tests and oral tests (reading hijaiyah letters with the vowel fat hah) during the pretest and posttest (to see the child's ability to read hijaiyah letters). Correct answers to written and oral questions are declared correct, given a value of 1. However, wrong answers are given a score of 0. The scoring technique for this test instrument is the number of correct answers plus 8, the sum is multiplied by 2, so the maximum score is 100. Analysis of the results of the score tests compared before and after treatment. Category scores on the results of this test are divided into three classifications: high, medium, and low. The determination of these categories is based on the categorization formula, according to Azwar (2009). From the analysis of the subject's score, the value of M = 72.88, SD = 19.73, and X = Score of each respondent is obtained.

3. RESULTS & DISCUSSION

The analysis of the IQ test (WISC) shows that 3 students are mentally disabled children in the mild to moderate category. The three students were selected as research subjects, then given a pretest three times to determine the consistency of scores and the stability of the subject's condition. After knowing the consistency of the subject's score, the subject was given treatment which was then given a posttest three times. This research took place from 18-25 November 2021. The results of the repeated pretest and posttest can be seen in Table 2. The description of each subject shows an increase in scores from the pretest to the posttest. Observations made during the treatment process showed that all subjects experienced an increase in reading hijaiyah letters. Before being given treatment, the subject's score was in the low to moderate category, but after being given treatment, the subject showed a significant increase in score, namely in the medium to high category. Hypothesis testing was carried out to determine the effectiveness of the mnemonic method on the ability to read hijaiyah letters through statistical analysis.

The first step before testing the hypothesis is to carry out a normality test which is a prerequisite for the t-test. The normality test aims to determine whether the data is usually distributed and determine what statistical analysis to use parametric or non-parametric statistics. The normality test in this study used the Shapiro-Wilk test using the IBM SPSS 26 program. The Shapiro-Wilk test was chosen because the sample was less than 50. The data is usually distributed if the significance value is more significant than 0.05. The results of the normality test can be seen in table 3.

Table 2. Data on the Results of the Ability to Read Hijaiyah Letters

Name	Nilai *Pre-test 1*	Nilai *Pre-test 2*	Nilai *Pre-test 3*	Nilai *Post-test 1*	Nilai *Post-test 2*	Nilai *Post-test 3*
AD	56*sedang	52*rendah	64*sedang	90*sedang	92*sedang	100*tinggi
AR	54*sedang	70*sedang	72*sedang	88*sedang	92*sedang	100*tinggi
AL	40*rendah	46*rendah	48*rendah	80*sedang	92*sedang	86*sedang

Table 3. Normality Test Results

Intervensi	Kolmogrov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test	.159	9	.200*	.953	9	.719

Hasil Belajar Huruf Hijaiyah	Post Test	.165	9	.200*	.938	9	.566

To answer the formulation of the problem, the hypothesis test is carried out by using the Paired Sample T-test. This was done because after testing the normality of the data, it was found that the data were normally distributed.

Table 4. Paired Sample Statistic pretest dan posttest 1

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre Test	50.00	3	8.718	5.033
	Post Test	86.00	3	5.292	3.055

Table 5. Paired Sample Statistic pretest dan posttest 2

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre Test	56.00	3	12.490	7.211
	Post Test	88.67	3	5.774	3.333

Table 6. Paired Sample Statistic pretest dan posttest 3

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre Test	61.33	3	12.220	7.055
	Post Test	95.33	3	8.083	4.667

The three results of each intervention show the descriptive value of each variable in paired samples. The final test score is higher than the initial test score. The distribution range of the final test data is getting narrower, and the standard error is getting smaller. Furthermore, to answer research questions, the researcher first formulated a research hypothesis and a decision-making guideline in the Paired Sample T-Test. The formulation of the research hypothesis is as follows:

- Ho: There is no effect of the mnemonic method on the ability to read hijaiyah letters in mentally disabled children.
- Ha: There is an effect of the mnemonic method on the ability to read hijaiyah letters in mentally disabled children.

Guidelines for decision-making in the Paired Sample T-test based on the significance value (Sig.) of the SPSS output results are as follows:

- If the value of Sig. (2-tailed) < 0.05, then Ho is rejected, and Ha is accepted.
- Conversely, if the value of Sig. (2-tailed) > 0.05, then Ho is accepted, and Ha is rejected

Table 7. Hasil Output uji *Paired Sample T-test*

		Paired Samples Test							
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Pre Test – Post Test 1	-36.000	3.464	2.000	-44.605	-27.395	-18.000	2	.003
	Pre Test – Post Test 2	-32.667	9.452	5.457	-56.146	-9.188	-5.986	2	.027
	Pre Test – Post Test 3	-34.000	5.292	3.055	-47.145	-20.855	-11.129	2	.008

Table 7 shows the pretest-posttest values 1 to 3 sequentially on the test (t = -18.0, p = 0.003), (t = -5.9, p = 0.027), (t = -11.1, p = 0.008) or p more smaller than 0.05 which is used for hypothesis testing, meaning that there is a significant difference between the results of the pretest and post-test, where the post-test score is higher than the pre-test score. Thus it can be stated that there was an increase in the ability to read hijaiyah letters in the research subjects, which at the same time showed that the intervention given using the mnemonic method proved effective in increasing the ability to read hijaiyah letters. The implications of the results of this study indicate that the mnemonic method can be used to improve the ability to read hijaiyah letters in mentally retarded children at Siwi Mulia Special School. The following graph shows the increase in the score of each subject after the intervention with the mnemonic keyword method.
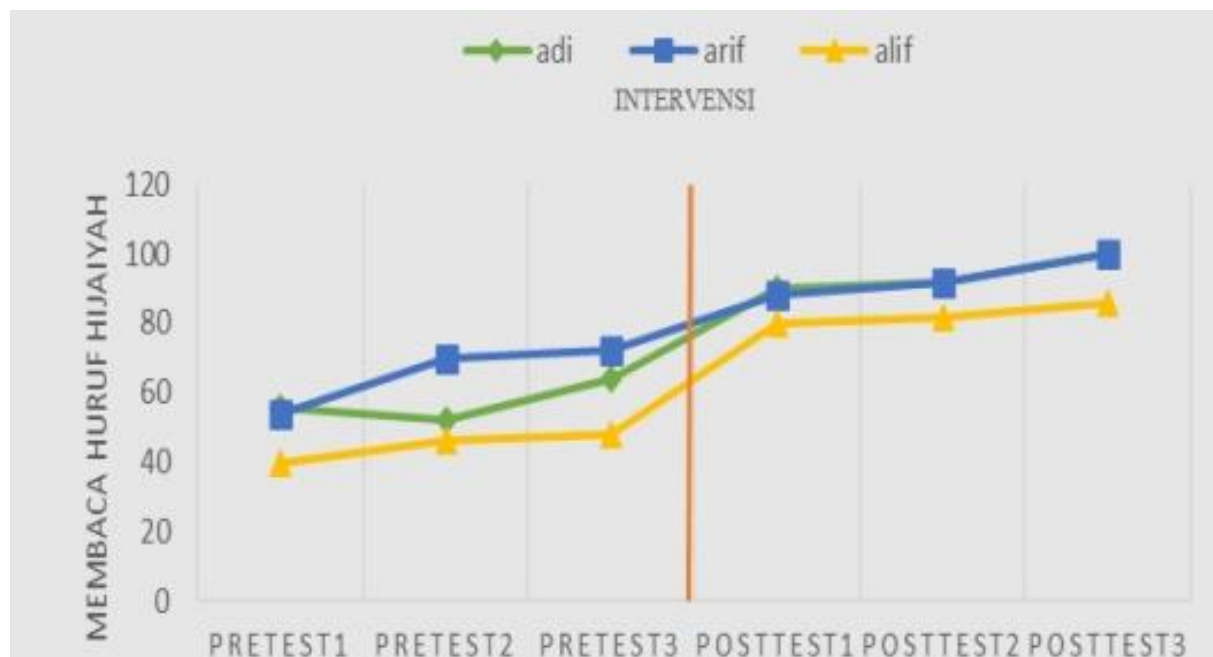

Figure 1. Most-used Social Media Platforms in Indonesia

The results of the hypothesis test show the pretest-posttest values 1 to 3 sequentially on the test (t = -18.0, p = 0.003), (t = -5.9, p = 0.027), (t = -11.1, p = 0.008) or p smaller than 0.05 thus it can be stated that the hypothesis in this study can be proven. In other words, the mnemonic method has been proven to increase the ability to read hijaiyah letters in mentally disabled children. Mentally disabled children have deficits in intellectual functions, such as reasoning, problem-solving, planning, abstract thinking, assessment, academic learning, and learning (Carr et al., 2016). In addition, mentally disabled children experience disturbances in adaptive functioning, failing to meet developmental and sociocultural standards for personal independence and social responsibility (Sumaryanti, 2010; Thompson, 2020). Without support, adaptive deficits limit functioning in one or more activities of daily living, such as communication, social participation, and independent living in various environments such as home, school, work, and community-based on experience, as confirmed by clinical assessment and standardized intelligence testing individual. The main goals of education for mentally disabled children, according to Kirk (in Rochyadi, 2012), namely (a) to be able to develop their potential as well as possible; (b) Can help themselves, stand alone and be beneficial to society; (c) Having a decent physical and spiritual life. However, that goal is only one of the goals because it requires certain adjustments to their ability level. Goals beyond the reach of mentally disabled children do not need to be forced to be mastered by them a mentally disabled child. The main thing to do is to provide basic skills such as reading, arithmetic, vocational skills, and skills to live independently. Beginning reading ability, especially in mentally disabled children, is more oriented towards basic reading skills, namely literacy skills. Reading is one of the most important topics in cognitive psychology, where reading is spelling or reciting what is written to recognize a word directly from the letters located or written in order to pick and understand the meaning contained in written material (Matlin, 2016; Rayner et al., 2012).

Reading hijaiyah letters to mentally disabled children requires certain media and methods. Moreover, hijaiyah letters are foreign letters and not the mother tongue of the subject, so it is more challenging than reading Latin letters in Indonesian (Hidayati & Sopandi, 2013; Novelia & Hazizah, 2020). Mnemonics is a way for mentally disabled students to learn hijaiyah letters quickly. To make it easier for mentally disabled students to learn to read hijaiyah letters, this research focused on learning hijaiyah letters with vowels/marks read fathah. Previous research stated that mnemonics were effectively applied in learning to memorize Arabic letters or Arabic vocabulary, especially the keyword method, because mnemonics are proven to improve memory and maintain long-term memory (Ni & Hassan, 2019; Sari, 2018).

When given material on getting to know hijaiyah letters, mentally disabled students initially found reading challenging, only being able to read 5-10 letters. When mentally disabled children are asked to read the hijaiyah letters, they cannot do it correctly and only point at random because they do not recognize the shape of the letters they mention (Sari et al., 2019). The child's ability to know letters can be seen when the child can name a letter symbol, and the child's ability to understand letters can be seen from the child's ability to interpret letters (Alucyana et al., 2020; Astuti et al., 2021). When children become more fluent with letter names, they become more interested in understanding the sounds produced by letters. So it can be interpreted that the child can recognize letters if the child can name, show letters, and sort them.

Researchers tried to do research as best they could, but there were still some things that researchers could have done better in this study. The weakness of this study is that the variables that affect the ability to read hijaiyah letters of mentally disabled students are not

fully controlled, including how students' learning styles at school and home, students' memory in studying learning hijaiyah letters, so that student test results can be affected by these variables. The results of providing interventions in the form of mnemonic methods to research subjects improved their ability to read hijaiyah letters. This is evidenced by a significant increase in pretest to post-test scores. Initially, they got low to average pretest scores, finally increasing the moderate to high post-test scores. Even the AD and AR subjects got a perfect scores at the end of the post-test assessment. So it can be concluded that the mnemonic method improves the ability to read hijaiyah letters in mentally disabled children.

4. CONCLUSION

Based on the results of this study, it can be concluded that the mnemonic method can be used to improve the ability to read hijaiyah letters for people with mental retardation at Siwi Mulia Special School. Reading hijaiyah letters for mentally disabled students improves after learning to read hijaiyah letters marked reading fathah using the mnemonic method. Learning to recognize hijaiyah letters in SLB schools, especially in SLB Siwi Mulia, should use supportive media so that learning can be more effective and enjoyable according to the level of student development so that student learning outcomes experience an increase. Suggestions for further research are expected to add other references relevant to the effectiveness of the mnemonic method and the ability to read hijaiyah letters. Future researchers can also add other variables so that the effectiveness of the mnemonic method is more accurate and broad in its application.

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