

The Effect of Using Loose Part Media on Fine Motor Skills of Students with Moderate Intellectual Disabilities at Bina Siwi SLB

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ABSTRACT

This study was conducted to determine the effect of loose part media on the fine motor skills of students with moderate intellectual disabilities in SLB Bina Siwi. This study uses a quantitative approach with a Pre-Experimental method research design with a one-group pre-test post-test form. The sampling technique in this study used a one-class population consisting of class VII and class VIII, two students of class VII, and three students of class VIII SMPLB SLB Bina Siwi—data collection techniques using pre-test, treatment, and post-test. Data analysis in this study used non-parametric statistical methods that were analyzed descriptively and for hypothesis testing using the Wilcoxon test at a significance rate of $\alpha = 0.05$. Decision-making in hypothesis testing in this study found the value of Asymp. Sig (2-tailed) is 0.043, which shows that the value is smaller ($<$) than the significance level of 0.05, then H_1 is accepted. Based on these results, it can be concluded that there is a difference between the results of the pre-test and post-test scores, so it can be concluded that there is an effect of loose part media on the fine motor skills of students with moderate intellectual disabilities at Bina Siwi SLB.

Keywords: Moderate Intellectual Disabilities, Fine Motor, Loose Part Media

INTRODUCTION

Fine motor skills are a form of skill that refers to the ability to coordinate small, precise movements. Small movements involve using hands and fingers, which include controlling hand movements precisely to perform an activity such as writing, drawing, holding small objects, putting objects into a container, cutting, and sticking. Fine motor skills play an important role in children's daily lives, as they can help children to develop writing skills. Fine motor skills require fine muscle skills that coordinate the eyes with certain body parts, such as fingers and hands (Kintamani, 2017). However, in reality, fine motor skills can be a challenge for some individuals, especially for people with disabilities, one of which is for students with moderate intellectual disabilities. Intellectual disability is someone who has obstacles to intelligence below average. One of the classifications of intellectual disabilities is students with moderate intellectual disabilities.

Moderate intellectual disability, or what is usually referred to as imbeciles, is a condition of children who experience such low intelligence barriers, having an IQ of 36-51 on the Binet scale and 40-54 according to the Wechsler scale (Jati, 2019). They experience barriers in following academic learning activities at school, such as writing, counting, reading, and other learning activities. When completing a task, children with intellectual disability are only able to complete assignments or learning equivalent to children aged five

years to 7 years and need supervision (Desiningrum, 2016) because there is a strong relationship between motor development delays and children's intellectual ability (IQ), individuals with lower intellectual intelligence (IQ) often show less optimal fine motor skills than individuals who have higher intellectual intelligence (IQ), they show optimal fine motor skills (Vasiliki et al., 2021).

An appropriate training and stimulation activity is needed to improve the fine motor skills of moderate intellectual disabilities that support the development of functional skills and more complex learning abilities. Activities to train children's fine motor skills must use learning media, which has a very important role in achieving a learning goal so that the results are good and efficient (Noormiyanto, 2020). Media that can be used in fine motor development is given according to the needs of students. One of the media that can be given to students to improve fine motor skills is loose part media. Loose part media is a media that uses various materials around the daily environment, such as natural materials, metal materials, plastic materials, yarn, cloth, ceramics, glass, wood, bamboo, or used packaging materials. Teachers and parents can use loose part media at home to build, determine, modify, and design a good educational play environment so that children's curiosity increases (Nursakdiah et al., 2021).

Intellectual disabilities can experiment and explore making things using loose part components. Loose-part media is one of the strategies for improving various early childhood skills, especially fine motor skills. The application of loose part media is expected to help train children's fine motor skills because the child's hands will make active movements to use the loose part media that has been provided in the form of games, shaping and arranging the press that has been provided, the use of loose part media can also increase children's imagination and creativity, improve eye and hand coordination, train fine motor skills, train concentration, can also be used as a medium to express children's emotions. This media is easy to obtain and endless because it can be used according to any theme or learning method. In addition, this media can also be played by children according to their ideas, imagination, desires, and creativity (Ridwan et al., 2022).

The problem in SLB Bina Siwi is that five students are experiencing fine motor obstacles that are almost the same between one student and another. This can be seen that all fine motor development has not been developed by fine motor indicators, namely children have not made vertical, horizontal, left/right curved, left/right oblique, and circular lines, tracing shapes, coordinating eyes and hands to perform complex movements, performing manipulative movements to produce a shape using various media, express themselves by creating art using multiple media and controlling hand movements that use fine muscles (Ministry of Education and Culture, 2014) through the application of loose part media with activities of thickening, tracing, cutting, sticking, coloring is expected to improve fine motor skills in students with moderate intellectual disabilities.

METHOD

This study uses a quantitative approach with an experimental research design. This method is based on the researcher's aim to determine the use of loose part media on fine motor skills in moderate deaf children who are used as research samples. Experimental research is used when researchers want to know the cause-and-effect effect between independent and dependent variables (Sugiyono, 2019). The experimental research design used in this study is Pre-Experimental with the form of One-group pretest-posttest. The

population used in this study is one class consisting of class VII and class VIII SMPLB students at SLB Bina Siwi. Sampling in this study was carried out using a saturated sampling technique. This was done because the population was relatively less than 30 students.

Data collection techniques in this study were observation, questionnaires, and documentation. To test the research instrument using the validity test with the Spearman test used for non-parametric statistics whose data does not require normal distribution or the number of data < 30 , based on the validity test results obtained 30 valid questionnaire statements. After the validity test is carried out, the reliability test is next to determine the extent to which the instrument or measuring instrument in the research used is reliable and consistent using Cronbach's Alpha; the reliability test results are $0.993 > 0.05$. This shows that the question instrument is declared reliable.

The data analysis techniques were descriptive statistical analysis, pre-requisite tests, and hypothesis testing. Descriptive statistical analysis is carried out by presenting data in a frequency distribution table, calculating the average value, total score, and level of respondent achievement, and interpreting it. Descriptive statistical analysis aims to collect, process, and analyze data to be presented better (Ghozali, 2016). The pre-requisite test in this study is the normality test to measure whether the data is obtained normally distributed or not. The normality test used in this study is the normality test with the Shapiro-Wilk method. This Shapiro-Wilk test is used in data capacity with a small range because if the data is too excessive, it will be difficult (Muliani & Widana, 2020). This Shapiro-Wolk data test uses the SPSS 26 application. Hypothesis testing in this study used a non-pre-tactic test with the Wilcoxon test. The Wilcoxon test can be used in paired observation conditions to determine the similarity of media before and after observation as a result of a behavior (pretest-posttest).

RESULT AND DISCUSSION

The initial stage in this research is to measure children's fine motor skills before treatment with loose part media. The results of the pre-test data can be seen in the table below:

Table 1. Pre-test Score

No	Student's	Pre-Test Score
1.	AI	64
2.	AZ	61
3.	ZE	58
4.	RO	60
5.	AL	80

In the treatment stage, the researcher first introduces loose-part media consisting of loose-part components of blocks, stones, pom-poms, and rocks; the researcher teaches how to move the loose-part pom-pom components one by one; this is based on fine motor indicators, namely performing hand control movements such as pinching. The researcher teaches how to make a shape using loose stone components. Making shapes aims to help children perform manipulative movements to produce a shape. Researchers stimulate children's knowledge of various shapes and lines, such as vertical, horizontal, curved, and left/right oblique lines, and make circle shapes, triangle shapes, and square shapes;

researchers teach how to imitate/trace triangle shapes and square shapes using loose part block components, this activity is based on fine motor indicators, namely children can imitate/trace shapes. After various kinds of lines and shapes stimulate the child, the researcher also teaches the child how to make these shapes and lines; this activity is based on indicators of fine motor skills. Namely, children can make various kinds of lines and shapes. Researchers teach how to cut and paste according to the pattern, and cutting and pasting activities refer to the fine motor indicators of coordinating eye and hand movements. Then, researchers reviewed children's fine motor skills after treatment.

Table 2. Pre-test Score

No	Student's	Pre-Test Score
1.	AI	100
2.	AZ	100
3.	ZE	79
4.	RO	100
5.	AL	104

The results of descriptive statistical analysis of pre-test and post-test data above can be seen in the table below as follows:

Table 3. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	5	58	80	64.60	8.877
Post-test	5	78	104	96.60	9.990
Valid N (listwise)	5				

Based on Table 3. from the data (pre-test) with five research samples, the average result is 64.60, the maximum value is 80, the minimum value is 58, and the standard deviation is 8.877. From the data (post-test), the average result is 96.60, the maximum value is 104, the minimum value is 78, and the standard deviation is 9.990. The data normality test in this study used the Shapiro-Wilk test with a range of sample data <50. The following normality test results can be seen in the table below:

Table 4. Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre-test	.327	5	.086	.771	5	.046
Post-test	.433	5	.003	.692	5	.008

Table 4 shows the pre-test Asymp-Sig value is 0.046 and the post-test Sig. The value is 0.008. decision making if the significance value <0.05, then the data is not normal. The data in this study were not normally distributed because the results of both the pre-test and post-test values above were less than 0.05.

Hypothesis testing in this study used the Wilcoxon test with the help of SPSS version 26. In this test, the values (pre-test) and (post-test) are compared to determine whether there is an increase in value in the sample group. The basis for decision-making in the

Wilcoxon test is (a) If the Asymp.sig value. (2-tailed) < 0.05 , then H_0 is rejected and H_1 is accepted. (b) If the Asymp. Sig. (2-tailed) > 0.05 , then H_0 is accepted and H_1 is rejected.

Table 5. Wilcoxon Signed Rank Test

	Test Statistics ^a
	Score_posttest - Score_pretest
Z	-2.023 ^b
Asymp. Sig. (2-tailed)	.043
a. Wilcoxon Signed Ranks Test	
b. Based on negative ranks.	

Based on Table 5, the value of Asymp. Sig. (2-tailed) of 0.043 < 0.05 , then H_0 is rejected and H_1 is accepted. Decision-making can also be determined through Zcount which, based on the results of the table above, the value of Zcount is -2.023, and the known value of Ztable with an alpha of 5% or 0.05 is -1.645 which means that the value of Zcount is $-2.023 > -1.645$ (Ztable), then H_0 is rejected and H_1 is accepted. This shows that there is a difference in the fine motor skills of students with moderate intellectual disabilities from the results of the pre-test and post-test scores, so it can be concluded that there is an effect of using loose part media on the fine motor skills of students with moderate intellectual disabilities at Bina Siwi Special School.

CONCLUSION

Based on the research, it can be concluded that there is an effect of loose part media on the fine motor skills of students with moderate intellectual disabilities in SLB Bina Siwi. There is an increase from the total score of the pre-test to the total score of the post-test. This shows that previously, children have not been able to make a line/pattern, trace a pattern, cut and paste according to the pattern, or grasp something but often fall and color; after being given treatment (treatment), the results show that the use of loose part media has had a significant positive impact in improving the fine motor skills of a moderate intellectual disability in Bina Siwi SLB.

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