



The Effect of Scissors on Children's Fine Motor Skills

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Abstract

Early childhood is a golden period where a child's brain develops and absorbs various things optimally at the same time, so it is an ideal period to lay the foundation for his future life. The aim of this research is to determine the effect of scissors on fine motor skills in young children. The cutting activity is designed to train children's fine motor skills, especially their fingers. The research method used is quantitative research using a single pre-test and post-test group as the research design. The data analysis technique uses a paired sample t-test, one of the test methods used to evaluate the effectiveness of treatment, which characterizes the difference in average values before and after the start of treatment. Based on the research results, in the mandatory test using the normality test and homogeneity test, the sign value for the normality test was 0.200 and the sign value for the homogeneity test was 0.400. In the paired sample test, after the test was carried out, it was found that the sign value was 0.000, where this sign value was less than 0.05. This study concluded that there was an influence of cutting activities on fine motor skills of children.

Keywords: ability; fine motor skills; scissor.

INTRODUCTION

Early childhood, or what we often know as childhood, is a colorful period where every day is a miracle of growth and development. At this stage, children begin to be interested and enthusiastic about learning about the world around them. This condition supports children's ability to respond to something given by their environment (Suryana, 2013). Therefore, early childhood education provides comfort in playing and learning activities so that children's growth and development can be maximized (Mardiyah et al., 2020; Wulandari & Suparno, 2020). This is in accordance with the aim of early childhood education, which is to actually develop potential in children (Aisyah, 2017; Iswantinegtyas & Wulansari, 2018). Early childhood is a golden period where a child's brain develops and absorbs various things optimally at the same time, so it is an ideal period to lay the foundation for his future life. Adequate attention must be given to ensuring that early childhood education develops as planned. This is a sensitive period for young children as their physical and mental functions become more mature and ready to respond to environmental stimuli. Every child has different sensitivity periods and different levels of growth and development. This is also the moment for laying the first foundations and developing cognitive, linguistic, and physical skills, religious and moral values, socio-emotional, and artistic qualities.

Early childhood development is a critical period in life because it is during the golden age (Uce, 2017), laying the foundation for further development. This period includes a series of physical, emotional, motor, social, and cognitive changes that occur in children from birth to around six years of age. Every child is unique, and their development is influenced by

various factors such as genetics, environment, and life experiences. Aspects of motor development in early childhood include coordination of motor movements and fine motor skills. At first, the baby's size and weight increase rapidly. They learn to control and move their heads and eventually learn to crawl, stand, and walk. At the same time, fine motor skills such as grasping objects and using writing tools begin to develop. A child's early development is an important stage in the formation of a complete individual. The attention and care shown during this period will have a long-term impact on the child's life.

At this stage, early childhood development is still immature, but they already have skills and abilities. A child's age of 5–6 years is a fundamental period that determines his future life. For this reason, we need to understand early childhood development, especially physical and motor development. Developing motor skills in early childhood is very important for children's growth and development. Children with fine motor skills easily learn new things, which are very useful for learning. Fine motor skills themselves carry out activities using children's small muscles Sumantri in (Muslihan, 2019); development needs to be done through routine or repeated activities (Decaprio in Praminta & Christiana, 2014). Learning motor skills encourages children to be involved in certain fields from an early age, such as playing music, drawing, making crafts, designing, etc. Many young children have special talents because of their fine motor skills.

The development of a child's fine motor skills is determined by the child's ability to use the small muscles in his hands, fingers, and arms. This ability is important for various daily activities, such as eating, buttoning clothes, and writing. Children's fine motor development begins at birth. At first, babies are only able to grasp by gripping. As babies get older, they will begin to develop a more controlled finger grip. According to (Saputra & Setianingrum, 2016), fine motor development is considered important to study because, both directly and indirectly, it will influence children's behavior every day. Sensory-motor development is a process that refers to the brain's ability to receive, interpret, and effectively use information transmitted through the five senses, as well as the child's ability to move his body parts. Children's sensory-motor development occurs in stages, from birth to two years of age. In the early stages, newborn babies are only able to react to stimuli from the surrounding environment, such as touch, sound, and smell. As babies get older, they begin to develop the ability to move their limbs, such as grasping, crawling, and walking.

Motor development is one of the most important factors in overall individual development because it influences the development of other people (Rahmayanti, 2013). Overall motor development in preschool children needs to be improved because students' bodies are more flexible than adults. Preschool children have extraordinary potential to optimize all aspects of their development, including gross motor skills (Sari, 2011). Children need stimulation from the external environment for overall motor development. Stimulation is very important in a child's growth and development because it provides stimulation gradually and continuously according to the child's age. Children need to be stimulated to play well so they can develop all aspects of their gross motor skills optimally. However, there are still many problems that occur in children's development, namely that there are still many children who have low motor skills (Darmiatun & Mayar, 2019; Pratiwi & Rahmah, 2019), a weakness because children are rarely trained (Lestariani et al., 2019). In activities involving fine motor skills, children will experience difficulty carrying out these activities, such as cutting, drawing, folding, and sticking (Wandi & Mayar, 2019).

Based on the results of observations made at the SPS Flamboyan 60 school, Jember Regency, fine motor skills are less developed. Cutting will train small muscles and improve

fine motor skills. Cutting activities can help children improve their abilities because they train the muscles of their hands and fingers (Sumantri in Samsidar, 2019). Some children show delays in their fine motor skills, which is indicated by the child's lack of skill in displaying and training small muscles in cutting. Of the 21 children, there are 13 who have not yet developed (BB) in cutting activities; 4 children have started to develop (MB); 2 children are developing according to expectations (BSH); and only 2 children are developing very well (BSB). Thus, it can be concluded that there are still 17 children, or 80.95% of children, who have low ability in fine motor development, namely in terms of cutting.

The problems that occur are due to several things, such as the lack of teachers in motivating their children towards their interest in learning, the use of less varied methods, and the lack of use of media that can support the success of the learning process. Therefore, to overcome low fine motor skills in children, they can be improved through appropriate learning methods and media. One learning method that can be used to improve children's fine motor skills is through paper-cutting activities. The cutting activity is intended to train children's fine motor skills, especially to train children's fingers. Cutting is the activity of cutting a material according to a pattern using tools Sumantri in (Samsidar, 2019). Cutting is one of the fine motor activities that are important for children to master. This activity requires coordination between the eyes, hands, and fingers. By cutting, children can develop their fine motor skills, such as the ability to hold objects correctly, the ability to move their fingers skillfully, and the ability to coordinate eye and hand movements.

In a previous study that stated that, through cutting activities with different patterns proved to improve fine motor skills in children (Waryanti et al., 2023). The improvement in learning about fine motor skills on pattern cutting activities on paper has reached the growing category very well (Robiatussa'adah & Hikmat, 2023). kinematic assessment can augment standardized tests of fine motor skills in an optometric setting and may be useful for measuring visuomotor function and monitoring treatment outcomes in children with binocular vision anomalies (Hazizah et al., 2024). The difference from previous research, that to determine the influence of the knife on fine motor skills in early childhood, thus very beneficial for the development of skills especially fine motor abilities in early children.

The benefit of cutting is that it trains the child's hand and finger muscles and the child's concentration. Apart from that, there are many benefits that children will get from cutting activities, including: a) training fine motor skills; b) training eye, hand coordination, and concentration; c) increasing self-confidence; d) being fluent in writing; e) expressing expression; and f) cognitive sharpening. (Anwar, 2020) . Cutting activities require hand and finger muscle motor skills to coordinate cutting so that you can cut paper, cloth, and other items at will. Jamaris stated that children who have difficulty learning motor movements are weak in visual motor coordination, especially children who have difficulty coordinating visual movements. and locomotion (movement of hands, fingers, or feet) simultaneously and towards a goal, as is done when inserting a thread into the eye of a needle or when coloring a picture or cutting paper. "Based on the explanation above, the aim of this research is to determine whether there is an effect of scissors on the fine motor skills of early childhood students at SPS Flamboyan 60, Jember Regency.

METHOD

This research uses a quantitative method with a quasi-experimental type, which is a research method used to determine the effect of certain variables on other variables. This

study was conducted in early childhood at SPS Flamboyan 60. The research data obtained came from the pre-test and post-test on the research sample, namely group A, totaling 21 children. This method uses a deductive approach, meaning it starts with a theory or hypothesis, which is then tested for truth through experiments. A one-group pretest-posttest design is a research method used to determine the effect of treatment variables on the dependent variable using only one group. To analyze research data using a one-group pretest-posttest design, the t test can be used. This test is used to compare the average score of the initial test and the final test. If there is a significant difference between the two average values, it can be concluded that the treatment given has an effect on the dependent variable.

Table 1. Cutting Indicator Grid

Observed aspects	Description	Score
Accuracy	Children can cut according to the pattern on paper precisely without teacher guidance	4
	Children can cut according to the pattern on the paper precisely with the teacher's guidance	3
	Children can cut, but not according to the pattern on the paper without teacher guidance	2
	Children can cut, but not according to the pattern on the paper, with the teacher's guidance	1
Neatness	Children are able to cut according to patterns on paper neatly without teacher guidance	4
	Children are able to cut according to the pattern on the paper neatly with the teacher's guidance	3
	Children can cut but are not neat without teacher guidance	2
	Children can cut but are not neat with teacher guidance	1

Calculating quantitative data is done by calculating the score obtained by the child from the observation sheet. The value percentage is written using the formula according to (Purwanto, 2016), namely:

$$NP = \frac{R}{SM} \times 100 \dots\dots\dots(1)$$

Information: NP : the percent value sought or expected; R : raw score obtained by students; SM: the ideal maximum score of the test in question; 100 : fixed number.

The percentage criteria are equivalent to the assessment criteria used in this research, namely:

Table 2: Assessment Criteria

No	Criteria	Percentage
1	Developing Very Well (BSB)	80% - 100%
2	Developing According to Expectations (BSH)	60% - 79%
3	Starting to Develop (MB)	30% - 59%
4	Undeveloped (BB)	0% - 29%

A paired sample t-test is a test of the difference between two paired samples. Paired samples are the same subjects but experience different treatments. This test is to prove whether the research samples before and after treatment have significantly different averages or not.

RESULTS AND DISCUSSION

The research carried out aims to show whether or not there is an influence of the use of cutting activities on children's fine motor skills at SPS Flamboyan 60, Jember Regency. The research data obtained came from the pre-test and post-test on the research sample, namely group A, totaling 21 children. The aspects assessed in the development of cutting are the aspects of accuracy and neatness. The following is an explanation of the research results, which reveal the influence of cutting on children's motor skills at SPS Flamboyan 60, Jember Regency.

The learning process of cutting activities is carried out gradually according to the learning steps, so that the fine motor skills of the child can be improved gradually (Asmara, 2020). Cutting activities help children develop eye-hand coordination, hand strength, and precision of movement. Step-step cutting activities that have an effect on changes in fine motor skills of children, as follows: 1) Make sure cutting is safe and suitable for the size of children's hands. Provide colored paper, a base to keep the work area clean, and a simple picture to cut. 2) Start by teaching children to hold the scissors properly. Explain the position of your fingers in the cutter hole. Usually, the thumb is in the upper hole, and the index and middle finger are in the lower hole. Give examples slowly and make sure the child knows how to cut safely. 3) Give them a paper with a simple straight line as an initial exercise. Give support and encouragement if the child is in trouble, and persuade them to follow the line with a scissor. This activity helps to strengthen the muscles of the hands and train the coordination of the arms. 4) Once the child becomes accustomed to cutting straight lines, improve the technique by giving it a simple shape like a circle or triangle. To improve a child's fine motor skills, ask them to make a collage from a piece of paper that they cut; this activity requires greater precision. Children can make pictures or patterns by cutting small shapes from paper of different colors and putting them on other paper. It boosts their imagination and creativity in addition to improving their fine motor skills, 6) Bring the kids to see what they do after they are done. Praise them for their skill and effort. Discuss which aspects they find most difficult, as well as strategies to improve them in the future. It helps children learn from experience and strengthens their skills. Before testing the hypothesis, a normality test and a homogeneity test are first carried out using SSPS 25 statistics.

Table 3. Normality

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		21
Normal Parameters ^{a,b}	Mean	.0000000
	Std.	.92288902
	Deviation	
Most Extreme Differences	Absolute	.136
	Positive	.113
	Negative	-.136

One-Sample Kolmogorov-Smirnov Test	
Unstandardized Residual	
Test Statistic	.136
Asymp. Sig. (2-tailed)	.200 ^{c,d}

The results of the normality test above table 3 explain that with the Kolmogorov-Smirnov test the data obtained is a sign value. As much as 0.200 and more than 0.05. Based on the decision making, if the sign value is more than 0.05 then the data used is normally distributed

Table 4. Homogeneity

Test of Homogeneity of Variances			
PREPOS			
Levene Statistic	df1	df2	Sig.
.722	1	40	.400

In table 4, the sign value is obtained. If it is 0.400 or more than 0.05, the data is said to be homogeneous. After carrying out the conditional tests, namely the normality test and the homogeneity test, So next, we will use hypothesis testing. Hypothesis testing using SPSS assistance via a paired simple t test.

Table 5. Paired Tests

		Paired Differences		95% Confidence Interval of the Difference		t	df	Sig. (2- tailed)	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair	Pretest	-	1.58565	.34602	-	-	-	20	.000
1	-	2.7142			3.4360	1.9925	7.844		
	Posttest				6	1			

In the paired sample test and in accordance with decision-making, if the sign value is less than 0.05, then there is a significant difference between the initial variable and the final variable, which shows that there is a significant influence on the difference in treatment given to each variable. Based on table 5, after the test was carried out, it was found that the sign value was 0.000 and less than 0.05, which means that there is a significant influence on the differences in treatment given to each variable.

The researcher began the research by carrying out design and planning in the field to ensure that the application of scissors that would be used could be consistent and run smoothly according to the desired results. The implementation plan for learning to cut is outlined in an action plan prepared by the researcher. Researchers plan the beginning and end of learning activities so that learning becomes a unit that cannot be separated from other aspects of development. Activities include preparing various tools used in this research in the

form of checklists and observation sheets used to record fine motor development through cutting activities. Researchers also prepared the media used in cutting activities, such as paper with drawings and scissors, and prepared intermediate drawing models. The research also prepared tools to record learning activities, such as cameras for photos. During the activity period, there were 21 children who took part in educational activities. Learning activities are implemented with the aim of making learning a unified whole so that children can focus on learning through cutting-edge activities. Such success proves that cutting activities are effective in improving the child's physical motor skills (Yunmahlizar & Rahma, 2020).

Learning begins with the activity of reading and memorizing short letters from the Koran classically with the guidance of researchers and continues with good morning greetings as usual. The perpetrator confirmed attendance, vacated the child's seat, and gave the children a learning assignment that asked them to cut out pictures from paper. The researchers further explained how to cut it correctly. The researcher made sure to provide cutting examples so that students knew how to cut properly. After explaining the cutting process to the students, the researcher asked the children to sit in a square shape on chairs arranged by the field researcher. This aims to create a safe and comfortable learning atmosphere during cutting activities and encourage positive communication between students and teachers. Plus, kids can do cutting activities while feeling safe and comfortable. The use of stages in early childhood cutting is very important, teachers need to consider each stage that is taught (Widayati et al., 2019).

During the cutting process, the teacher goes to each student, provides immediate assistance to students who are having difficulty, and provides extra help. Here, the students are very enthusiastic about cutting, and the teacher asks the children to stay focused and be careful when cutting out the picture paper that has been provided. This can be seen from the students' enthusiasm and showing the results of their cutting-edge work to their friends. At the end of the lesson, the researcher asked questions related to the content of the activity. What shape is cut? What happened to you? The aim is to find out how well students respond to savings activities carried out by researchers or teachers. At the end of the activity, the researcher invited the children to discuss the day's learning, including an explanation of the paper-cutting activity. After the discussion activity, it continued with family prayer led by one of the children. The results of this study are in line with (Rezeki, 2018) findings, which indicate that there is a significant influence on the fine motor skills of children aged 5-6 years.

CONCLUSION

Based on the results of research at SPS Flamboyan 60, there is an influence of cutting activities on children's fine motor skills. This was discovered through prerequisite tests using a normality test obtained at 0.200 and a homogeneity test obtained at 0.400, which is more than 0.05, meaning the data is normally distributed and homogeneous. In the paired sample test, after the test was carried out, it was found that the sign value was 0.000 and less than 0.05, meaning that there was a significant influence on the differences in treatment given to each variable.

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