

THE EFFECT OF THE USE OF EDUCATIONAL TOYS MADE OF NATURE ON FINE MOTOR DEVELOPMENT IN EARLY CHILDHOOD

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Abstract

The study aims to determine whether or not the use of natural educational games has an impact on fine motor development in early childhood. This research uses a quantitative approach with quasi-experimental experimental methods. This study was carried out in RA Perwanida 2 Mataram on children of group B. From the results that have been done educational play tools have been shown to be able to improve fine motorics of early childhood who previously motoric fine children are not very active in their daily life and this can be seen in the experimental group. This is because educational play tools in children's learning activities are very suitable for stimulating the child's natural motor potential which can be obtained from the surrounding environment.

Keywords : Educational Game Tools, Fine Motor Skills, Early Childhood.

Abstrak

Penelitian ini bertujuan untuk mengetahui ada tidaknya penggunaan permainan edukatif alami terhadap perkembangan motorik halus anak usia dini. Penelitian ini menggunakan pendekatan kuantitatif dengan metode eksperimen kuasi eksperimen. Penelitian ini dilaksanakan di RA Perwanida 2 Mataram pada anak kelompok B. Dari hasil yang telah dilakukan alat bermain edukatif terbukti mampu meningkatkan motorik halus anak usia dini yang sebelumnya motorik halus anak kurang aktif dalam bermain. kehidupan sehari-hari dan ini dapat dilihat pada kelompok eksperimen. Hal ini dikarenakan alat bermain edukatif dalam kegiatan belajar anak sangat cocok untuk merangsang potensi motorik alami anak yang dapat diperoleh dari lingkungan sekitar.

Kata Kunci: Alat Permainan Edukasi, Keterampilan Motorik Halus, Anak Usia Dini.

INTRODUCTION

Early childhood is an important phase in a person's development, in this phase children are experiencing rapid growth and development both mentally, emotionally and physically. Early childhood is a group of children aged 0 to 6 years, therefore parents also need to pay attention to the growth and development of their children. In physical development, children will experience growth and development in the body and muscle parts. They also begin to develop gross motor skills, such as walking, running, and jumping.

In addition, fine motor skills, such as grasping small objects and drawing, also began to develop during this period. One of the aspects that affects children's growth and development is motor development. According to Fitriani (2018) that the motor skills possessed by each child are different. Some are slow and some are in line with development. Children who experience delays in fine motor development have difficulty coordinating the movements of their hands and fingers flexibly (Afrina, 2016).

The same thing was stated by Nurjanah (2017), one of the fine motor delays in preschool or toddler children can cause children to find it difficult to socialize with their peers in terms of playing and writing. The existence of physical disorders owned by children can be one of the obstacles that can hinder the process of motor development (Sahara, Muslihin & Mulyana, 2021). Lack of stimulation affects children's motor development (Yanti & Fridalni, 2020).

To support fine motor skills in children, it can be done by using educational tools made of natural materials. According to several previous studies that have conducted research on educational play tools have an influence on children's cognitive development (Veronica, 2018; Karim & Wifroh, 2014; Fitriana, 2018). Similarly, other findings state that educational games can develop early childhood creativity (Renawati & Suyadi, 2021; Hairiyah & Mukhlis, 2019) improves the ability to recognize colors (Nityanasari, 2020; Mulyana, Nurzaman & Fauziyah, 2017; Yani & Sopandi, 2020) Educational games also affect students' learning motivation (Siahaan, Sinaga & Simanjuntak, 2020) improving language skills in children (Kurnia & Zulkifli, 2016).

From the above explanation, not many have conducted research using natural media as an educational game tool. In fact, according to researchers, nature has a large and diverse gap effect to form a learning model that can improve fine motor skills in children. In addition, the researcher also considers that there is still a lack of understanding of teachers in utilizing the environment. In fact, several previous studies have shown that the environment can improve scientific learning (Astini, Nurhasanah & Nupus, 2019), overcome learning problems (Solfema, Wahid & Pamungkas, 2018).

Educational games made of natural materials will sharpen fine motor skills because they can be created with various forms of learning in everything that can be built through the creativity of teachers/educators compared to games made of plastic. Nature has provided various kinds of materials that can also be reprocessed by nature after use.

Based on the results of the study, not many have researched related to the use of educational games made from nature in developing fine motor development in early childhood.

The learning model using educational games made from nature is an effective learning process in increasing student learning motivation, interaction between students and teachers, and student communication skills.

METHOD

This type of research is experimental research in the form of a quasi experiment with a quantitative approach. Quasi experimental research is also called an unreal experiment, or a pretend experiment (Sukardi, 2018). The population in this study is all students in RA Perwanida II which consists of 4 classes and the number of students who become the population is 13 students. This study uses a simple experimental method that uses an experimental group and a control group. The data collection method in this study is by observation in the form of instruments so that it is more directed, structured so that the data results that have been obtained are easy to process. The following are the research instruments used in this study:

Table 1. Research Instruments

Variable	Indicator	Sub-Indicators	Items
Motor development	Ability in eye-hand coordination	Painting with a variety of media	1,2
		Create shapes from various Media	3,4,5
		Exploring with various media	6
	Movement accuracy Hand	Meronce with a variety of Media	7.8.9
	Hand gesture coordination	Mimicking shapes	10
Total			10

RESULTS AND DISCUSSION

Instrument Validity and Reality Test

The researcher tested the validity of the instrument through field trials and expert tests. Learning technologists are surveyed for expert testing. This expert test is carried out to determine the validity of the instrument based on the quality of its content. As indicated by the results of the questionnaire, the validator gave a score of 83.6 for the research instrument. Since the instrument is between 80 and 100, this indicates that the quality of the instrument for the description is very decent. After the expert test, field tests are carried out to ensure

the effectiveness and validity of the research instrument. Among 13 students in the B1 group at RA Perwanida 2 Mataram, the researcher conducted a field trial with a posttest. Then, the data was analyzed using Product Moment correlation. According to the decision-making criteria, the research instrument is considered valid if the value of Sig. (2-tailed) is greater than 0.05. The following are the results of the validity test of the research instrument in group B1 with the help of SPSS 28.0 for Windows.

Table 2. Results of the validity test of the instrument

Sig's question.	(2-tailed)	Results
1	0,753	Valid
2	0,753	Valid
3	0,800	Valid
4	0,832	Valid
5	0,617	Valid
6	0,833	Valid
7	0,920	Valid
8	0,811	Valid
9	0,841	Valid
10	0,841	Valid
11	0,751	Valid

Based on Table 4.1 above, it can be concluded that all the description question instruments are valid because the value of Sig. (2-tailed) > 0.05 . Next, the data reliability test uses Cronbach Alpha. The decision-making criteria are if the value of Sig. (2-tailed) > 0.05 , then the research instrument is declared reliable.

Descriptive Statistics

Descriptive statistics were carried out to describe the results of the observation pretest carried out before the treatment using the playground tools available in kindergarten and the results of the posttest carried out after the treatment using educational playground equipment made from nature.

Table 3. Descriptive statistics of pretest and posttest results

Class	N	Min	Max	Mean	Std.Dev	Var
Pretest (before treatment)	13	12	21	16,54	2,570	6,603
Posttest	13	34	43	38,23	2,488	6,192

Based on the table above, it can be seen that the pretest has an average score of 16.54 with the lowest score of 12 and the highest score of 21. In addition, the posttest had an average score of 38.23 with the lowest score of 34 and the highest score of 43. In addition, the pretest has a standard deviation of 2.570 with a variance of 6.603, and the posttest has a standard deviation of 2.488 with a variance of 6.192.

Normality Test

In this normality test, it aims to test the data of dependent variables and independent variables with normal distribution or not. Good data will be normally distributed if the significance value > 0.05 using Kalmogrov Smirnov. The results of the normality test were carried out using the help of SPSS version 25.

Table 4. Calculation results from normality test

Variable	Kolmogrov-Smirnov	Asymp. Sig. (2-tailed)		Information
Pretest	.220	0,185		Normally distributed
Posttest				

Based on the results of the normality test, it can be concluded that in the normality test, the significance value of $0.185 > 0.05$ is known, where the significance of 0.185 is greater than 0.05, then it can be concluded that the residual value is normally distributed.

Hypothesis test

The results of the analysis requirements test above show that the data of both classes are normally distributed. Therefore, hypothesis testing will be done with T Two Independent Sample examples in Windows with the help of SPSS 28.0.

Table 5. Hypothesis test results

	Mean	Std. Dev	T	Sig	Ket
Pretest posttest	-22.60000	1.42984	-49.983	.000	Ho rejected

Based on the results of the table, it shows that the value of sig. (2-tailed) 0.000 is less than 0.05, which means that the significance of the study is less than 0.05, which means that H₀ is rejected. At RA Perwanida 2 Mataram, the use of educational game tools made from natural materials has an impact on the motor skills of group B children, so H_a is accepted.

This research was conducted at RA Perwanida 2 Mataram in group B children. This research is an experimental research with the One Group Pretest Posttest type which aims to determine the effect of the use of educational games made of natural materials on the fine motor skills of group B children. The pretest before being given treatment was carried out by the researcher for 2 days in January 2024 and to find out the initial state of the students about their fine motor skills. In this case, the researcher assesses in terms of the child's motor ability before being given treatment. The pretest activity is carried out by the class teacher by doing origami paper cutting activities where origami here is a tool to carry out pretest activities. After that, the teacher asks the children to stick the origami pieces and attach them to the worksheets that have been prepared for each child.

In this pretest activity, some looked less enthusiastic. The results of the observations obtained by the researcher during the observation activities in group B, the researcher assumes that all students are still not able to optimize their own abilities. The next step is the provision of treatment using educational toys made of natural materials. Treatment is carried out by researchers for 2x or 2 days. The posttest activity will be carried out in January 2024. The purpose of the posttest was to measure the final state after the subject was given treatment.

From this final test, activities using educational playgrounds made from nature really make children more cheerful when using materials from the surrounding environment. So that from the previous one, the fine motor skills of children with low levels increased after being treated using the medium of educational games made of natural materials and can be shown from the results of the calculation as follows: The first is Descriptive Statistics where the average score results (mean) of the initial test and the final test (16.00 < 38.60), it can be concluded that H₀ is rejected because the average score of the initial test results is smaller than the average score of the final test which means that there is an influence The use of educational playgrounds made of natural materials on the development of fine motor skills in early childhood fine motor skills of children in group B. Further analysis of normality test.

From the activities that have been carried out on the 13 children, it shows results or changes in the children's fine motor skills. This is also proof that educational game tools with the help of natural materials use banana fronds. With this, the fine motor skills of early

childhood become increased such as the ability (skill) of the structure or function of the body which can be said to be complex.

Based on the results of the normality test, it is known that the significance value is $0.185 > 0.05$, where the significance of 0.185 is greater than 0.05, so it can be concluded that the value is normally distributed, which means that the use of educational games made of natural materials has a great influence on the fine motor development of group B children in Perwanida 2 Mataram Kindergarten.

CONCLUSION

Based on the results of the study, it can be concluded that the use of natural APE is proven to have a significant effect on developing children's fine motor skills in the experimental group. The fine motor level of the children who were given treatment was higher compared to the group of children who were not treated. Regarding the conclusion of the value above, why the use of natural materials APE in the form of educational games made of natural materials can develop children's fine motor skills, because the use of natural materials to be used as one of the APE in children's learning activities is very suitable for stimulating the natural potential of children's motor which can be obtained from the surrounding environment.

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