The Effect of Puzzle Playing on Smooth Motor Development in Children Aged 5-6 Years at TK. Kumara Canthi (Kindergarten) Singaraja

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ABSTRACT

Preschool children are children aged 36-72 months who have their own characteristics in terms of growth and development. Every child experience growth and development differently. Usually, growth and development in preschool children is a problem that usually occurs in fine motor development. Management of smooth motor development in preschool children can be done by providing educational games such as puzzles. This study aims to determine whether there is an effect of playing puzzles on smooth motor skills in children aged 5-6 years at Kumara Canthi Kindergarten Singaraja. Pre-experimental research design with one group pretest-posttest design. The population used in this study were children aged 5-6 years in TK Kumara Canthi Singaraja. The sample size used was 34 respondents who were selected using a saturated sampling technique. Data collection techniques using Denver II and SOP puzzle. This study shows that there is an Influence of Playing Puzzles on Subtle Motoric Development in Children Aged 5-6 Years in TK Kumara Canthi Singaraja.

Keywords: puzzle; smooth motor development; children aged 5-6 years

INTRODUCTION

Preschool children are children aged from 4 to 6 years or 36-72 months who have their own characteristics in terms of growth and development (Sudirjo & Alif, 2018). Growth and development can also be defined as an inseparable unit because growth is part of development and everything that grows must develop (Rantina et al., 2021). Development or development is an increase in the ability of the body's structure and function to be more complex, in a regular pattern. (Soetjiningsih & Ranuh, 2019).

Based on research results (Ministry of Health, 2020) monitoring the growth of under-five developments carried out every month shows that toddlers aged 6-59 months who have never been weighed and monitored for growth and development in 6 months increased from 23% in 2018 to 34.4% in 2020. In Indonesia, the number of children aged 0-6 years is 26.09 million, of which 12.6 million are aged 4-5 years and around 384,800 people (3.05%) children experience developmental delays (Central Agency for Statistics, 2019).

One of the developmental delays experienced by children is fine motor development, this is supported by several studies. According to (Yuniati, 2018) obtaining data at At Taqwa Kindergarten found that around 40% of children were still unable to carry out developmental tasks according to their age in the fine motor aspect. Children who experience delays in fine motor development are usually given activities that are carried out alternately and continuously every day such as making lines, coloring, cutting, folding paper, and weaving (Soetjiningsih & Ranuh, 2019).

For disorders of fine motor development, various activities such as games can be given, one of which is a puzzle game. Puzzle games are one of the educational games for children (Octaviyani & Suri, 2019). In playing puzzles, children can train concentration, accuracy, patience, train eye and hand coordination by using small muscles, especially in the hands and fingers so that without realizing it, children learn to actively use their fingers to arrange puzzle pieces. so that it becomes a complete picture (Ilato, 2020), then based on this it indicates that indirectly puzzle games can train fine motor skills in children.

Based on the results of a preliminary study conducted at the Kumara Canthi Singaraja Kindergarten, the researchers conducted preliminary data collection interviews with the principal and the results showed that the kindergarten had a total of 44 children aged from 5 to 6 years. Of the 44 children divided into 2 classes, namely class B1 totaling 23 people and class B3 totaling 21 people. Based on information obtained from the Kumara Canthi Singaraja Kindergarten teacher, many activities are carried out to improve fine motor skills in children such as weaving, cutting,

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making lines, drawing, and coloring. By using Denver II, 10 children were taken at random, the results showed that three children were categorized as normal because they had successfully carried out the tests listed in Denver II, namely by following the box mark, drawing a person in six parts, following the box shown, choosing a longer line, and following the example +. Meanwhile, six children were categorized as suspects because they failed to take the test listed in Denver II and one child was categorized as untestable because the child refused to take the test listed in Denver II. According to the teacher's statement at the Kumara Canthi Singaraja Kindergarten, there has never been a game with puzzle media either in groups or individually under the supervision of the teacher in order to overcome the problem of fine motor development in children.

Based on the description of the background above, the researcher is interested in researching the Effect of Puzzle Playing on Fine Motors in Children aged 5-6 Years at Kumara Canthi Kindergarten Singaraja.

METHOD

This research is a quantitative study with a pre-experimental research design with a one-group pretest-posttest design. This design does not have a comparison group (control group), but the first observation (pretest) has been carried out which allows for testing the changes that will occur after the experiment (Notoatmodjo, 2018).

This research was conducted in TK Kuara Canthi Singaraja in March-April 2022. The population in this study were children aged 5-6 years in TK Kumara Canthi Singaraja as many as 34 people. The sampling technique used in this study is a non-probability sampling technique using saturated sampling. Collecting data using observation sheets based on Denver II and SOP puzzles. Before being given a puzzle game, respondents were first measured regarding the task of fine motor development with Denver II. Then given treatment for one month and applied 2 times a week for 15 minutes with the number of puzzle pieces 15 (Maghfuroh, 2018). After being treated for one month, the respondents were measured again for the task of fine motor development using the Denver II observation sheet. Data analysis was carried out using univariate analysis and bivariate analysis using the Wilcoxon test.

RESULT

Table 1. Respondents Based on Age in TK Kumara Canthi Singaraja.

Variable	N	Mean	Min	Max	SD
Age	34	5.74	5	6	0.448

Based on table 1 it can be concluded that the average age of the respondents is 5.74 years. Respondents who have the highest age is 6 years and the lowest age is 5 years.

Table 2. Frequency Distribution of Respondent Characteristics by Gender in TK Kumara Canthi Singaraja

Gender	Frequency (N)	Percentage (%)
Man	18	52.9
Woman	16	47.1
Total	34	100

Based on table 2, it can be concluded that of the 34 respondents, most of the respondents were male, as many as 18 respondents (52.9%) and female respondents, namely 16 respondents (47.1%).

Table 3. Children's Smooth Motor Development Before and After Being Given a Puzzle Game

	N	Mean	Min	Max	SD	95%CI	p
Pretest	34	5.85	2	10	1.743	5.24-6.46	0.000*
Posttest	34	9.85	8	10	0.436	9.70-10.00	

*Asymp. Sig. (2-tailed) of Wilcoxon test

Based on table 3 shows that 34 respondents with an average of 5.85 (95% CI: 5.24-6.46), the standard deviation of 1.743 with the lowest fine motor category 2 and the highest 10. From the interval estimation, it can be concluded that the average value of the fine motor category of children in TK Kumara Canthi Singaraja is between 5.24-6.46. These

data indicate that the value of the fine motor category before being given the puzzle game intervention mostly experienced fine motor skills in the suspect category.

Based on table 3 shows that the average value of the fine motor category after being given a puzzle game is 9.85 (95% CI: 9.70-10) from 34 respondents with a standard deviation of 0.436. The value of the lowest fine motor category is 8 and the highest value is 10. From the interval estimation, it can be concluded that the average value of the fine motor category of children at Kumara Canthi Singaraja Kindergarten after being given a puzzle game has mostly increased the value of fine motor category to normal.

Based on table 3, it shows that there is a significant effect of the implementation of the puzzle game intervention on children's fine motor development. The results of the tests carried out using the Wilcoxon test showed that the p-value = 0.000 (p<0.05). So, it can be concluded that the null hypothesis (H0) is rejected, which means that there is an effect of playing puzzles on fine motor development in children aged 5-6 years at Kumara Canthi Kindergarten, Singaraja.

DISCUSSION

Judging from the characteristics based on age in Kumara Canthi Singaraja Kindergarten from 34 respondents that the maximum age is 6 years, and the minimum age is 5 years with the average age of respondents being 5.74 years. The data above is supported by a statement (Sudirjo & Alif, 2019) saying that aged 0-8 years at this time children have potential that must be developed so that children must be directed in educational and positive activities such as playing; children will learn a lot to socialize so that children's development will improve. maximum is reached. This theory is in accordance with research conducted by (Fembi & Pora, 2020) which says that in preschool children, fine motor development in children will develop more rapidly because it can be seen in the drawing, cutting, arranging, and writing activities.

From the results of research on the characteristics of respondents based on gender in TK Kumara Canthi Singaraja, it was found that most of the respondents were male, namely, 18 respondents (52.9), and a small proportion were female, namely 16 respondents (47.1). According to researchers, in Kumara Canthi Singaraja Kindergarten there are more boys than girls; this is supported by research (Maghfuroh, 2019) which said that the results showed that most of the children were male, amounting to 24 children (54.5%) while there were 20 girls (45.5) where boys were quicker to concentrate and easier to direct, while girls preferred to discuss with their friends next to them.

The results of the data analysis test of the effect of playing puzzles on fine motor development in children aged 5-6 years in TK Kumara Canthi Singaraja using the Wilcoxon test with of 0.05. The results of 34 respondents obtained a p value of 0.000 with a predetermined significant level, namely (0.05), then the p value is smaller than 0.05. So, this shows that H0 is rejected, which means that there is an effect of playing puzzles on fine motor development in children aged 5-6 years at Kumara Canthi Kindergarten Singaraja.

Seeing the effect of puzzle games on fine motor development in children aged 5-6 years at Kumara Canthi Kindergarten Singaraja, by comparing the average value of the fine motor category before and after the puzzle playing intervention. The average result of fine motor skills before the puzzle game was done was 5.85 (suspect) and after being given the puzzle game was 9.85 (normal). This study proves the effect of playing puzzles on fine motor development in children aged 5-6 years at Kumara Canthi Kindergarten Singaraja.

This is in line with the results of research conducted (Nusantara & Cahyaningrum, 2021) which resulted in data analysis with a p-value of 0.046 (p<0.05), meaning that there is an effect of puzzle effectiveness on the task of fine motor development of children at Amanah Bogares Kidul KB Paud. Another study was also conducted (Darmawani, 2020); in this study, it can also be seen that the results of observations in the first cycle were fine motor development in as many as 7 children (37%) with the category developing as expected, and 12 children (63%) in the category still develop. In the second cycle there was an increase because of the 16 children (84%) in the developing category as expected, and 3 children (16%) in the still developing category. able to arrange pictorial puzzle pieces, with a success rate of 84% of the total respondents. Then there was an average increase of 47% of each ability observed in the still developing and developing category as expected.

Another study conducted by (Fembi & Pora, 2020) said the research results showed that for 30 respondents it was observed that the average value of the pre-test was 1.53 while the average value of the post-test was 2.70. The results of the analysis test showed that the pre-test and post-test values after being given a puzzle game with a p-value of 0.000 were smaller than = 0.05. It can be concluded that there is a significant effect caused by the intervention of educational games with puzzle media.

CONCLUSION

The average result (mean) of fine motor development before being given a puzzle media intervention was 5.85 and after being given a puzzle media intervention it was 9.85. The results of the statistical analysis test using the Wilcoxon test obtained a p-value of 0.000<0.05, thus H_0 is rejected; it can be concluded that there is an effect of playing puzzles on fine motor development in children aged 5-6 years in TK Kumara Canthi Singaraja.

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