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Article

The Effect of Giving Puzzle Game Method on Fine Motor Development in Preschool Children at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Gresik Village

Putri Lidiah[1], Diah Fauzia Zuhroh[2], Ernawati[3#], Ervi Suminar[4]
[1-4] Muhammadiyah University of Gresik

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CORRESPONDENCE

E-mail: ernawati@umg.ac.id

ABSTRACT

The stages of development experienced by a child include development in the fine motor aspect. Fine motor skills are part of a child's ability to observe and perform movements that involve only certain parts of the body with small muscles but require careful coordination. The purpose of this study is to determine the effect of the puzzle game method on fine motor development in preschool children at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Gresik Village. The design of this study uses Pre-Experimental (One Group Pre-post test). The population in this study is 119 preschool children. The sample taken was 46 children. The sampling technique is non-probability sampling by purposive sampling. Data collection uses KPSP Observation. The statistical test used is the Wilcoxon Signed Ranks Test. The results of the study showed that before being given therapy, the category was doubtful as much as 56.5% and 43.5% appropriate, after being given therapy, most of the 78.3% of children with fine motor development were appropriate. Based on the results of statistical analysis, a value ($p=0.000 < 0.05$) was obtained. The result of this study is that the provision of puzzle games can improve fine motor development in children. There is an effect of the puzzle game method on fine motor development in preschool children and it is hoped that teachers will further improve children's fine motor development by providing stimulation, one of which is providing puzzle games at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Gresik Village.

I. INTRODUCTION

Developmental disorders in children are still a common problem. In Indonesia, child development problems are shown with children who experience delays, including motor disorders. In 2018, the World Health Organization (WHO) reported that approximately 200 million children under 5 years old have not met their developmental needs (Harmila et al., 2023) Data obtained by the Indonesian Central Statistics Agency, the prevalence of developmental delays in children under five years old is around 7.51%, 5 to 10% of these children experience developmental delays (Maylasari et al., 2020)

Based on the data of the East Java Health Profile, it shows that the results of normal development are in accordance with age of 53%, doubtful (requires a deeper examination) as much as 13%, and developmental deviations as much as 34%. These developmental deviations include 10% of gross motor aspects (sitting and walking), 16% social independence, 30% namely fine motor (such as holding and writing), and 44% speaking or language (Hakiki & Andarwulan, 2023) Meanwhile, the prevalence of fine motor development disorders in children in East Java province was recorded at 24.5% (Sary et al., 2023).

Growth and development is a related process, occurring from conception and lasting from growth to adulthood. In this case, a child who experiences the phase to adulthood certainly goes through the stage of growth and development. There are several stages of development experienced by a child, including development in gross motor aspects, fine motor, language, and socialization/independence (Hamdanesti & Oresti, 2021). Children's motor development is influenced by the environment, physical structure, maturity, opportunities, practice, and learning or stimulation. Stimulation is given to children so that children are able to grow and develop optimally. Because, lack of stimulation in children, especially fine motor skills, can cause impaired fine motor development (Nikmah et al., 2023).

Fine motor skills are part of a child's ability to observe and perform movements that involve only certain parts of the body with small muscles, require careful coordination, and the ability to hold an object. To optimize the developmental aspect and train fine motor skills in children, it can be done with game media using educational game tools that can improve the development of fine motor skills, and personal emotions, namely through Puzzle games (Akbar et al., 2022). The fine motor development of preschool-age children can be affected by the puzzle technique, because by playing puzzles they combine puzzle pieces that can coordinate eye and hand movements. Without realizing it, their fine motor skills continue to develop well. When children play puzzles, they can also learn shapes and how they fill in the empty spaces that require pieces. Puzzles also help children understand similarities, such as how red or thick lines in one part correspond to the same pattern in another. Children can learn that an object or object is made up of small parts through this game. Children are encouraged to learn how to combine different components through this game (Maghfuroh, 2018)

Based on initial observations made at Dharma Wanita Al-Mu'minah Kindergarten, the information obtained is that there are still children who still do not meet their fine motor needs. Of the 10 children, there were 4 children who actively participated in activities directed by the teacher and 6 other children still looked passive like children who were silent while other children played. And the information provided by the teacher, when children are given games that can train their fine motor skills such as folding paper, children tend to be reluctant to do these activities and choose to play because there are some children who still cannot do these activities. In addition, children's delays in meeting the needs of motor development can be caused by internal factors from the family such as parents who do not release their children when doing certain activities or external factors in their environment such as an environment that is not safe or comfortable.

Based on the description above, it can provide researchers with a view on improving fine motor skills in children with their stimulus by providing play methods. What the researcher formulated was whether there was an effect of giving puzzle games on the fine motor development of

preschool children.

II. METHODS

This research is a quantitative research in the form of pre-experimental with a one-group pretest and posttest approach. The population in this study is 119 preschool children in Kindergarten X. The sampling technique in this study is purposive sampling with a sample of 46 children. The free variable is the puzzle game method and the bound variable is fine motor development. The instrument in the study used the observation of the Developmental Pre-Screening Questionnaire (KPSP) to assess the fine motor development of children before and after the intervention.

As for the intervention using puzzle media with a type of jigsaw puzzle with animal characters (cats, chickens, ducks, and pandas), the study was conducted from September 13 to 30, 2024 with a game duration of minutes. The research analysis was carried out first with a normality test and the final result of the statistical test in this study was ± 20 The Wilcoxon signed rank Test which aimed to analyze the influence of variables.

III. RESULT

1. Univariate

Demographic data of respondents

Table 5.1 Frequency distribution based on the age of children at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Village, Gresik in 2024

No	Age	Frequency (n)	Percentage (%)
1	4 Years	7	15,2%
2	5 Years	18	39,1%
3	6 Years	21	45,7%
Total		46	100%

Based on table 5.1, it shows that 7 (15.2%) children in 4-year-old Kindergarten X, 18 (39.1%) at 5 years old, and 21 (45.7%) at 6 years old.

Table 5.2 Frequency Distribution Based on Child Gender at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Village, Gresik in 2024

No	Gender	Frequency (n)	Percentage (%)
1	Man	21	45,7%
2	Woman	25	54,3%
Total		46	100%

Based on table 5.2, it shows that most of the gender of children in Kindergarten X is female, as many as 21 (45.7%) children.

Table 5.3 Frequency distribution based on maternal education in Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Village, Gresik in 2024

No	Maternal Education	Frequency (n)	Percentage (%)
1	SMP	6	13%
2	SMA	29	63%
3	College	11	23,9%
Total		46	100%

Based on table 5.3, it shows that most of the mothers of students have a high school education as many as 29 people Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Village, Gresik in 2024

Table 5.4 Frequency distribution based on maternal education at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Village, Gresik in 2024

No	Mother's Age	Frequency (n)	Percentage (%)
1	26-30	13	28,3%
2	31-40	24	52,2%
3	41-50	9	19,5%
Total		46	100%

Based on table 5.4, it shows that the age of most of the students' mothers is 31-40 years old, which is as many as 24 people (52.2%).

Table 5.5 Fine motor development before being given a puzzle game at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Village, Gresik in 2024

	Pre Test	
	Frequency (n)	Percentage (%)
Appropriate	20	43,5%
Doubt	26	56,5%
Total	46	100%

Based on table 5.5, it shows that the fine motor development of preschool age children before being given stimulation in the form of puzzle games is in the dubious category, namely 26 (56,5%) children.

Table 5.6 Fine motor development after being given a puzzle game at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Village, Gresik in 2024

Post Test		
	Frequency (n)	Percentage (%)
Appropriate	36	78,3%
Doubt	10	21,7%
Total	46	100%

Based on table 5.5, it shows that the fine motor development of preschool age children after being given stimulation in the form of puzzle games is in the dubious category, namely 36 (78,3%) children.

2. Bivariate

Tabel 5.7 Normalitas Pre dan Post Test

	Kolmogorov-Smirnov			Shapiro-wilk		
	Statistik	f	Sig	Statistik	f	Sig
Pre	0.247	46	0.000	0.872	46	0.000
Post	0.341	46	0.000	0.754	46	0.000

Based on the results in table 5.8, the significance value (p) on Kolmogorov-smirnov is 0.000 (p > 0.05), so the data is not normally distributed. And the significance value (p) in the Shapiro-Wilk test is 0.000 (p > 0.000), so the data is not distributed normally. Based on these results, the test of two paired samples in this study uses the Wilcoxon Signed Rank Test so that the influence of the variables studied can be seen.

Table 5.8 Data Analysis of the Influence of Puzzle Games Using the Wilcoxon Signed Ranks Test Statistical Test (n=46)

Frequency (n)	Hasil Posttest-Pretest
Z	-5.597b
Asymp. Sig. (2-tailed)	.000

Table 5.8 of the results of the analysis using the Wilcoxon Signed Ranks Test in pre and post obtained a value of p-value = 0.000 < 0.05 and Z = -5.597, which means that there is a significant influence before and after the provision α= of puzzles on fine motor development in preschool children in Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Village, Gresik in 2024 and there is an effect of giving puzzle games on improving children's fine motor development.

IV. DISCUSSION

The Effect of Giving Puzzle Games on Fine Motor Development in Preschool Children

The results of the study of 46 respondents had a positive value before the stimulation of the game. Before being given the puzzle game, the level of fine motor development was mostly with dubious categorizations as many as 26 (56.5%) children, and a small part of the level of fine motor development with appropriate categories as many as 20 (43.5%) children. After being given a puzzle game, the level of fine motor development of large children increased with the appropriate theory as many as 36 (78.3%) children and a small percentage of fine motor development levels with a dubious category of 20 (43.5%) children.

Based on analysis using the Wilcoxon testSigned Ranks Test By obtaining a p-value = 0.000 < 0.05, this means that there is an effect of giving α=0,05, puzzle games on fine motor development, where with the stimulus of puzzle games, fine motor development becomes better. The results of this study are in line with the research conducted by (Harmila et al., 2023) with the title Puzzle Games Affect Fine Motor Development of Children Aged 4-5 Years, and the results of fine motor development were obtained before being given an average treatment of 3.69 in the dubious category, after being given an average treatment of 6.59 in the appropriate category. The effect of puzzle games on fine motor development with a p value of 0.000 (<0.05). The analysis of the results showed an increase in fine motor development by 2.9. The conclusion in this study is that there is an effect of puzzle games on fine motor development of children aged 4-5 years with an increase in fine motor development.

Harmila's theory says that puzzle games have the potential to affect children's fine motor development because they teach to regulate hand and eye movements simultaneously, which helps them keep practicing during periods of excellent development. Children gain an understanding of shapes and how to fill in the blanks needed while participating in the puzzle game . They also learned about the elements of equations (Harmila et al., 2023).

The results of this study are in accordance with previous research, namely (Wigati et al., 2023), which examined the Effect of Puzzle Game Stimulation on Children's Fine Motor Development in Early Childhood Education (PAUD) KB Maarif Bakung Undawanu. The results of the respondents' research before being given the stimulus of the puzzle game were obtained that the majority of the development was normal, namely 12 respondents (60.0%). Respondents after being given stimulation of puzzle games had normal fine motor development, namely 18 respondents (90%). There is an effect of puzzle game stimulus on the fine motor development of children aged 3-4 years (p-value = 0.014< α (0.05) in addition, puzzle games can stimulate children's fine motor development where puzzles can train children's finger work which is coordinated with brain work in arranging pieces according to the desired shape of the picture, so that children become trained and indirectly this improve children's cognitive abilities, especially fine motor skills. The results of the study show that children's fine motor development can be improved through puzzle games. Playing puzzles trains the fingers and brain work to arrange the puzzle pieces according to the desired picture. Thus, children acquire skills and indirectly improve their congenital abilities, especially fine motor development.

V. CONCLUSION

After obtaining the results of the study, it can be concluded that in this study there is an effect of the puzzle game method on the fine motor development of preschool children at Dharma Wanita Al-Mu'minah Kindergarten, Sembayat Gresik Village with a value of p = 0.000.

REFERENCES

Akbar, G. F., Karta, I. W., & Astawa, I. M. S. (2022). The Effect of Puzzle Games on Cognitive, Fine Motor and Social-Emotional Development in Group B Children at Aisyiyah Labuhan Haji Kindergarten. Scientific *Journal of the Education Profession*, *7*(4b). https://doi.org/10.29303/jipp.v7i4b.1042

Hakiki, M., & Andarwulan, S. (2023). The Relationship between Parents' Knowledge of Growth and Development with the Development of Children Aged 4 – 6 Years. *PROFESSIONAL HEALTH JOURNAL*, *5*(1). https://doi.org/https://doi.org/10.54832/phj.v5i1sp.451

Hamdanesti, R., & Oresti, S. (2021). Textbook for Early Detection of Child Developmental Growth with Kpsp and Denver II Examination. In *Textbook* (p. 74).

Harmila, Fetriyah, U. H., & Joae Brett Nito, P. (2023). Puzzle games affect the fine motor development of children aged 4-5 years. *JKJ): Indonesian National Nurses Association*, *11*(3), 582–583. https://jurnal.unimus.ac.id/index.php/JKJ/article/view/12315/0

Maghfuroh, L. (2018). The method of playing puzzles has an effect on the fine motor development of preschool-age children. *Journal of Endurance*, *3*(1), 55. https://doi.org/10.22216/jen.v3i1.2488

Maylasari, I., Rachmawati, Y., Agustina, R., Silviyana, M., Noviani, A., Sari, M., & Yugiana, E. (2020). *Analysis of Early Childhood Development in Indonesia*. https://www.bps.go.id/id/publication/2020/10/22/7318afd993e5483a36649b4d/analisis-perkembangan-anak-usia-dini-indonesia-2018-integrasi-susenas-dan-riskesdas-2018.html

Nikmah, N., Qomari, S. N., & Zainiyah, H. (2023). The Effect of Puzzle Games on Fine Motor Development in Children Aged 24-36 Months. *Indonesian Journal of Professional Nursing*, *4*(1), 52. https://doi.org/10.30587/ijpn.v4i1.5773

Sary, Y. N. E., Ambarsari, N., & Suhartin, S. (2023). The Effect of Lego Games on Fine Motor Development in Children Aged 3-6 Years. *Journal of Obsession : Journal of Early Childhood Education*, *7*(5), 6273–6280. https://doi.org/10.31004/obsesi.v7i5.5350