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COMBINATION OF DIAMOND PAINTING PLAY THERAPY AND MUSIC THERAPY ON FINE MOTOR DEVELOPMENT IN PRESCHOOL CHILDREN

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ABSTRACT

Introduction: *One of the factors that influences fine motor development is stimulation. Children who receive more stimulation will develop faster than those who rarely do (4). Some activities that can develop fine motor skills include puzzle games. One type of puzzle that is currently popular in children's environments because it is interesting and easy to get is diamond painting. Diamond painting is a drawing game on a canvas by attaching diamond-shaped beads to a pattern that is already available. This game can train children's fine motor skills because the child's fingers will move to attach the beads to the painting media, in addition it can improve eye, hand coordination, concentration, and increase imagination and creativity. Not only play therapy or the use of other learning media, it turns out that music therapy can also improve children's motor development. Innovation and modification of play therapy need to be done in developing learning media so that they can help stimulate the growth and development of preschool children.* ***objective:*** *to analyze the effect of a combination of diamond painting play therapy and music therapy on fine motor development in preschool children.* ***Method:*** *This study uses a mixed method design, namely combining quantitative and qualitative methods in a study with an Explanatory Design approach.* ***Result:*** *fine motor skills of children in the intervention group with a p value of 0.000 or <0.05, meaning that there is an effect after being given a combination of diamond painting play therapy and music therapy.*

Introduction (Cambria Bold 12 pt)

The development of fine motor skills in pre-school children is an important part of a child's development stage. Fine motor skills refer to skills that involve coordination between the eyes and hands, such as writing, drawing, holding cutlery, as well as other manipulative skills (1), Good fine motor skills greatly influence children's cognitive and academic abilities in the future. However, many children at pre-school age face difficulties in fine motor development, which can be caused by various factors, including lack of appropriate stimulation, developmental disorders, and a lack of activities that support these skills. In a preliminary study at the Al Amin Islamic Kindergarten, it was found that around 12 children's fine motor development was still lacking, especially in the activity of moving their fingers in grasping and holding objects (2). Pre-school children are an age group that is very vulnerable to delays in fine motor development (3). According to WHO (2020), there is increasing attention to the use of arts-based therapies to support children's development, especially in the context of early childhood education. In this case, Diamond Painting therapy, which involves placing diamond grains on a canvas to form images, can be an interesting method for training fine motor skills, such as precision, hand-eye coordination, and mental endurance. Meanwhile, music therapy, which involves using musical instruments or listening to music, is also known to be effective in stimulating children's fine

motor and cognitive (4). In Indonesia, based on data from the Ministry of Education and Culture (2021), around 25% of pre-school age children show slower motor development compared to the expected development standards. Therefore, appropriate intervention in this phase is essential to prevent greater difficulties in the future. (5). In East Java, the prevalence rate of fine motor development disorders in early childhood is 24.5%, this percentage is quite high and needs attention, especially in the current digital era where children have become active consumers of gadgets which have had a negative impact on health, child development, dependency, including the potential for criminal acts (6). The lack of activities involving fine muscles is what may be the cause of this. Efforts that have been made by PGTK Islam Alamin in stimulating children's fine motor skills are by coloring, sticking, cutting and stringing beads. During observations at PG-TK Islam Alamin, the teacher's teaching methods were less varied so that children tended to be passive, less creative, and some children even ignored the teacher's instructions. There are many variations of learning media or play therapy that teachers can develop and apply to train children's fine muscles, including playing with origami, playdough, natural materials, puzzles, Lego, kinetic sand, touch boxes, and so on (2). Play therapy is an activity that is used to overcome children's growth and development problems. This is because play therapy is considered responsive to the diverse and unique needs in their development (7). Games must be able to stimulate the development of children's creativity, physical and emotional development, one of which is puzzles. Yuanita's research (2019) states that puzzles can affect children's fine motor skills (8). One type of puzzle game that is currently popular in children's circles because it is interesting and easy to get is diamond painting. Not only play therapy or the use of other learning media, it turns out that music therapy can also improve children's motor development. So far, music therapy has been used more often for children with special needs to help their cognitive development. Kaluku's research, Dwi Saputri (2019), said that rhythm music therapy has a significant influence on motor development in people with autism (9). Dotulong et al.'s research (2023) also said that music therapy also has a significant effect on gross motor skills in children with cerebral palsy (10). Innovation and modification of play therapy need to be done in developing learning media to help stimulate the growth and development of preschool children.

Based on the description above, the formulation of the research problem is (a) How to develop and apply play activities or techniques as a way to train children's fine motor skills; (b) Is there an increase in children's fine motor development after getting play activities or techniques as a way to train children's fine motor skills at PG-TK Islam Alamin. The urgency of this research is the availability of innovative play therapy, namely combining diamond painting play therapy and music therapy to help improve fine motor development in children. The hope for the continuation of this research is to be able to develop more innovative and easy-to-do play therapy for teachers, parents, and preschool children or even children with special needs. The outcome is the creation of a brilliant next generation of the nation in improving national development. The aim of this study was to analyze the effect of a combination of diamond painting play therapy and music therapy on fine motor development in preschool children.

Methods

This study uses a mixed method design, namely combining quantitative and qualitative methods in a study with an Explanatory Design approach. In the first stage the researcher

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collected and analyzing quantitative data then in the second stage collecting data qualitative which the respondent's parents were interviewed regarding their fine motor development. After that, it is analyzed, the results are presented and research conclusions are made. Population in this study All students of class A Kindergarten at PG-TK Islam Alamin totaling 42 children and all students of class A Kindergarten at TK Kusuma Jaya totaling 31 children, so that the total population is 73 children. Sample The sample determination used purposive sampling technique based on inclusion and exclusion criteria, using the Slovin formula with a 95% confidence level, so that the sample size was 62 children. Then divided into control and treatment groups of 31 each.

Respondent data were collected using questionnaires Fine Motor Ability Observation Sheet with greater validity test results r table >0.632 and reliability test value with Cornbach alpha 0.85 and observation sheets by researchers. Data analysis is divided into two, namely univariate and bivariate analysis. Univariate analysis is used to obtain descriptive characteristics of respondents, in the form of frequency distribution, percentage, mean, median, and standard deviation. Bivariate analysis is intended to determine the relationship or influence between independent variables and dependent variables. Statistical tests on fine motor development data using the T test and Wilcoxon Signed Ranked Test. Bivariate analysis of fine motor skills in children using the Wilcoxon signed ranks test because based on the normality test above the data is not normally distributed with significance < 0.05 in the data before and after the intervention is given. The results of the significance of statistical calculations are seen with a degree of significance $\alpha = 0.05$, if $p \leq \alpha$ then H0 is rejected and the hypothesis is accepted.

Results

1. Characteristics of Kindergarten A Class Children at PG-TK Islam Alamin and Kindergarten A Class in Kusuma Jaya

Table 1 Frequency Distribution Data based on Frequency Characteristics of Kindergarten A Class Children at PG-TK Islam Alamin and Kindergarten A Class in Kusuma Jaya (n=62).

Respondent Characteristics	Group			
	Intervention		Control	
	f	%	f	%
Age (Year)				
5 year	12	38.7	14	45.2
6 year	19	61.3	17	54.8
Total	31	100.0	31	100.0
Gender				
Male	11	35.5	12	38.7
Female	20	64.5	19	61.3
Total	31	100.0	31	100.0
Father's Education				
Elementary school	0	0	3	9.7
Junior High School	0	0	12	38.7
Senior high school	17	54.8	10	32.3
College	14	45.2	6	19.4

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Respondent Characteristics	Group			
	Intervention		Control	
	f	%	f	%
Total	31	100.0	31	100.0
Mother's Education				
Elementary school	3	9.7	0	0
Junior High School	2	6.5	6	19.4
Senior high school	17	54.8	22	71.0
College	9	29.0	3	9.7
Total	31	100.0	31	100.0
Father's Education				
Doesn't work	0	0	0	0
Private work	10	32.3	9	29.0
Entrepreneurial work	9	29.0	10	32.3
Government employees	9	29.0	11	35.5
others	3	9.7	1	3.2
Total	31	100.0	31	100.0
Mother's Education				
Doesn't work	11	35.5	13	41.9
Private work	6	19.4	7	22.6
Entrepreneurial work	6	19.4	1	3.2
Government employees	6	19.4	8	25.8
others	2	6.5	2	6.5
Total	31	100.0	31	100.0
Number of children				
1 Child	6	19.4	7	22.6
2 Child	17	54.8	15	48.4
3 Child	8	25.8	9	29.0
Total	31	100.0	31	100.0

Table 4.1 above explains the majority of children's ages 61.3% in the intervention group and 54.8% in the control group with an age of 6 years. Gender is mostly 64.5% (intervention) and 61.3% (control) are female. Father's education is mostly high school and high school both in the intervention and control groups. Father's occupation is mostly ASN and Entrepreneur and mother is mostly unemployed or housewife. While the average number of children in the intervention and control groups is 2 children.

2. Description of Fine Motor Skills in Class A Kindergarten Children at PG-TK Islam Alamin and Class A Kindergarten in Kusuma Jaya.

Table 2 Distribution of Fine Motor Frequency in Kindergarten Class A Children at PG-TK Islam Alamin and Kindergarten Class A in Kusuma Jaya Before and After Intervention (n=62).

Fine Motor Skills	Group					
	Intervention			Control		
	n	%	Mean+SD	n	%	Mean+SD
Before						

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Fine Motor Skills	Group					
	Intervention			Control		
	n	%	Mean+SD	n	%	Mean+SD
Not enough	16	51.6		16	51.6	
Enough	12	38.7	23.81±6.306	11	35.5	26.13±5.390
Good	3	9.7		4	12.9	
Total	31	100.0		31	100.0	
After						
Not enough	5	16.1		14	45.2	
Enough	9	29.0	35.03±5.782	13	41.9	26.35±5.389
Good	17	54.8		4	12.9	
Total	31	100.0		31	100.0	

Table 2 explains the frequency description of children's fine motor skills before being given intervention, most of which (51.6%) had poor fine motor skills, while after being given a combination of diamond painting play therapy and music therapy, there was a change in fine motor skills of 54.8% in the good category.

3. Bivariate Test of Influence or Difference before and after in the Intervention and Control Groups in Class A Kindergarten Children at PG-TK Islam Alamin and Class A Kindergarten in Kusuma Jaya.
   a. Data Normality Test

Data Normality Test in the Intervention and Control Groups (Kolmogorov Smirnov)
n=62

Group		*p value*
Intervention	Before	0.022
	After	0.011
Kontrol	Before	0.022
	After	0.008

   b. Wilcoxon test

Distribution of differences in children's fine motor skills before and after intervention in the intervention and control groups (n=62).

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Variables		Group Intervention			*P Value*
		Mean± SD	**Median**	**Min-Maks**	
Fine Motor Skills	Before	23.81±6.306	24.00	16-39	0,000
	After	35.03±5.782	37.00	24-44	
		Group Control			***P Value***
		Mean± SD	**Median**	**Min-Maks**	
	Before	26.13±5.390	24.00	19-39	0.020
	after	26.35±5.389	24.00	19-39	

Explained that there was a change in children's fine motor skills with a p value of 0.000 or <0.05, meaning that the value had an effect after being given a combination of diamond painting play therapy and music therapy.

4. Analyzing the effect of the combination of music and games on the fine motor skills of kindergarten children aged 5-6 years.

Difference test in intervention and control groups in children aged 5-6 years

Variables	Kelompok		Mean±SD	*P-Value*
Fine Motor Development Skills	Before	Intervention	24.97±5.934	0.060
		Control		
	After	Intervention	30.69±7.061	0,000
		Control		

Based on the table above, it explains that the p value shows greater than >0.05 in the intervention and control groups before being given a combination of diamond painting play therapy and music therapy intervention, but after being given an intervention in the control group and the intervention of each indicator, namely the p-value of 0.000 is smaller than <0.05, which shows that there is a real difference in the fine motor skills of children aged 5-6 years in the intervention and control groups after being given a combination of diamond painting play therapy and music therapy intervention.

5. The Qualitative Test of Influence or Difference before and after in the Intervention and Control Groups in Class A Kindergarten Children at PG-TK Islam Alamin and Class A Kindergarten in Kusuma Jaya.

Through observations and interviews with parents and caregivers of children aged 5-6 years, it was found that the combination of diamond painting and music therapy interventions had a positive effect on improving children's fine motor skills. Children involved in this therapy appear more agile in moving their hands and are better able to coordinate body movements, namely eye-hand, as well as precision and the ability to focus in carrying out tasks that require accuracy and thoroughness. Meanwhile, the control group did not experience significant changes.

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Discussion

5.1 Description of Fine Motor Development of Preschool Children in Class A Kindergarten at PG-TK Islam Alamin and Class A Kindergarten at Kusuma Jaya Before Being Given a Combination of Diamond Painting Play Therapy and Music Therapy.

Based on the results obtained, the development of children's fine motor skills showed that before being given treatment, the majority had poor fine motor skills, namely 16 respondents (51.6%) in the treatment group and 16 respondents (51.6%) in the control group. In early childhood development, there are aspects of development that need to be properly simulated and given attention in order to prepare children for the next level of education. One of them is the fine motor aspect. According to the World Health Organization (WHO), it is estimated that 5-10% of children experience thinking delays, estimated at 1-3% especially in children under the age of 5 years. Developmental delays that include motor, language, social, emotional and cognitive development are common in Indonesia.

According to the author, the dominant factor that causes the development of fine motor skills in children in Kindergarten A at PG-TK Islam Alamin and Kindergarten A in Kusuma Jaya is mostly in the category of less, this can be caused by family environment factors and lack of stimulation. Because most of the parents of children in the kindergarten work, it is possible that bonding or ties between parents and children are lacking because most of the time is used for work and when they get home the parents feel tired so that in building bonding it is not optimal. The presence of working parents in the child's daily life is less than that of mothers who do not work, so the opportunity for mothers to provide motivation and stimulation in children to carry out motor development tasks is limited. In fact, children who receive targeted stimulation will develop faster than children who lack or do not receive stimulation.

5.2 Description of Fine Motor Development of Preschool Children in Class A Kindergarten at PG-TK Islam Alamin and Class A Kindergarten at Kusuma Jaya After Being Given a Combination of Diamond Painting Play Therapy and Music Therapy

Based on the results obtained, the development of children's fine motor skills after being given treatment showed that most experienced changes with fine motor skills in the good category at 54.8%. Children who receive more direct stimulation will have faster development than those who receive less stimulation (5). Some activities that can develop children's fine motor skills include puzzle games (8). One type of puzzle game that is currently popular among children's circles because it is interesting and easy to get is diamond painting.

According to the author, diamond painting play therapy is very effective to apply because playing diamond painting requires hand movement coordination because the child's fingers will move to attach the beads to the painting media, in addition it can improve eye, hand, concentration coordination, and increase imagination and creativity. While audiolyfe music therapy provides a relaxing effect on the brain so that it will maximize brain performance and the child will be more focused in doing play therapy.

5.3 Identification of the Effect of Providing a Combination of Diamond Painting Play Therapy and Music Therapy on Preschool Children in Class A Kindergarten at PG-TK Islam Alamin and Class A Kindergarten at Kusuma Jaya.

Based on Table 5 above, it explains that the p value shows greater than >0.05 in the intervention and control groups before being given a combination of diamond painting play therapy and music therapy intervention, but after being given an intervention in the control group and the intervention of each indicator, namely the p-value of 0.000 is smaller than <0.05, which shows that there is a real difference in the fine motor skills of children aged 5-6 years in the intervention and control groups after being given a combination of diamond painting play therapy and music therapy intervention.

There are many variations of learning media or play therapy that can be developed and applied by teachers in training children's fine muscles, including playing with origami, playdough, natural materials, puzzles, Lego, kinetic sand, touch boxes, finger painting, weaving, sticking, cutting, coloring, puzzles and so on. Play therapy includes activities used to overcome children's growth and development problems.

5.4 Description of the results of interviews and observations of the Effect of Providing a Combination of Diamond Painting Play Therapy and Music Therapy on Preschool Children in Kindergarten Class A PG-TK Islam Alamin and Kindergarten Class A Kusuma Jaya.

Based on the results obtained, the combination of diamond painting and music therapy complement each other in supporting children's fine motor development. The integration of these two activities provides deep multisensory stimulation, involving not only the senses of sight and touch but also hearing in the learning process. This research proves that this therapy, if applied regularly, can accelerate fine motor development and improve other skills such as concentration, patience and creativity in young children.

Conclusion

The results of the study showed that there was an effect of the Combination of Diamond Painting Play Therapy and Music Therapy on the Improvement of Fine Motor Skills in Preschool Children with a p-value of 0.000 and there was a difference between the control group and the fine motor intervention group with a p-value of 0.020. The results of this study are expected to develop further research on diamond painting play therapy to improve fine motor skills in preschool children.

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