The Effectiveness of The Drill Drawing Method on The Development of Fine Motorists in Preschool Children

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Abstract
Background: Preschool is the right time to develop children's creativity. The directed development of children's creativity at this age range will influence their future life, one of which is by stimulating drawing exercises. Determining the effectiveness of the drill method by drawing on fine motor development in preschool children is the goal of this investigation. Methods: This research is a pre-experiment with one group pretest-posttest design sort of research. The study's target audience was kids alone in Kindergarten Bhakti Asuhan Palembang. Simple Random Sampling is the method used for sampling. The number of samples is 26 respondents who have met the inclusion and exclusion criteria. The data analysis technique used the Marginal Homogeneity test. Results: based on the findings of the univariate analysis performed before using the drill approach by drawing most of the respondents, the development was in the dubious category of as many as 20 respondents (76.9%). Meanwhile, after the drill method was carried out by drawing, most of the respondents' development increased, and as many as 23 respondents (88.5%) experienced an increase in inappropriate developments. According to the outcomes of the bivariate test using the Marginal Homogeneity Test, a significant value was obtained, namely (p-value = 0.000), so that <0.05. Conclusion: There are differences in fine motoric development in preschool children before and after the drill method by drawing at Kindergarten Bhakti Asuhan Palembang City.

Keywords Drill method, fine motor skills, preschool children.

INTRODUCTION

Preschool age is a time when children are between 4 and 6 years old. This age range is the deal period for fostering children's inventiveness. Preschool is a very important time in the process of child development. Preschool age is a unique period that determines the child's development, in this period voluntary behavior is formed because of the personality and will of the child (Turdimurodov, 2021). The development of children's creativity directed at this age range will have an impact on their lives in the future. But on the other hand, if parents cannot pay attention to the development of children's creativity correctly and purposefully, it may result in children's actual creativity (Setia, 2017).

According to the Indonesian Ministry of Health (2014), The golden phase, the window of opportunity, and the key period are terms commonly used to describe the first five years of growth. For children aged 0-5 years, the development of intelligence increases by about 50%, and in children aged 6-8 years, it increases by 80%. Based on the results of the stimulation service for growth and development early detection and intervention (SDIDTK) in children, it was found that 11.9% had growth and development disorders (Kemenkes RI, 2010).

The quality will be largely influenced by how youngsters develop during their early years in the future (Apriliyadi et al., 2020). According to data from UNICEF (United Nations International Children's Emergency Fund), 3 million children, or 27.5% of children under the
age of five, were determined to have growth and development problems, particularly motor development disorders (Nurjanah, 2017).

According to 2012 research from the World Health Organization (WHO), 5-25% of preschoolers exhibit mild brain impairment, including delayed fine motor development. Globally, it is reported that children who suffer from anxiety disorders are around 9%, easily emotional 11-15%, and 9-5% with behavioral problems (Katharina & Iit, 2018).

The Health Office claims (2013), there are 85,779 (62.02%) children of preschool age experiencing developmental disorders (Dinkes, 2013). According to estimates, diseases associated with developmental delay affect 5 to 10% of children. There may not be exact information on the prevalence of developmental delays, however, it is believed that 1-3% of children under the age of five have developmental abnormalities (IDAII, 2013).

From the results of a preliminary study conducted on 46 children in Kindergarten Bhakti Asuhan Palembang, data obtained through observation of child development using the KPSP showed that 38 children (82.6%) were in the Doubtful (M) category, 8 children (17.4%) were in the Doubtful category. Appropriate (S) and 0 children (0%) in the Deviation category (P).

Motor development has a close relationship with cognitive development (Escolano-Pérez et al., 2020). According to the research of Strooband et al., there are many ways to improve children's fine motor skills (Strooband et al., 2020). Because there is a lot of research on the relationship between fine motor skills and other domains of learning and development. One method that can be applied to improve or stimulate fine motor development in preschool-aged children is the drill method or exercise method. Based on the research conducted shows that the selection of exercise methods can improve children's fine motor skills (Cameron et al., 2012).

Fine motor skills involve the movement of the smaller muscles to grasp small objects using the hands and fingers, usually requiring hand-eye coordination (Luo et al., 2007). The drilling method is an activity of doing the same thing over and over again in earnest to perfect a skill (Rochmatun, 2014).

A technique that can be used to enhance or encourage preschoolers' fine motor development is the drill method or exercise method. Based on the research conducted shows that the selection of exercise methods can improve children's fine motor skills. The drilling approach entails repeatedly performing the same action with the intent of improving a skill (Rochmatun, 2014). Drill method berfungsi untuk mendapatkan keterampilan atau ketangkasan setelah mempelajari sesuatu (Lufri et al., 2018).

One of the things that affects a child's growth and development in the early years is art (Cohen et al., 2021). At this age, children will easily accept a fun way of learning (Anggraini & Yuwono, 2022). Drawing is one of the most important parts of children which produces various forms that make children happy, and happy and enjoy aesthetics and is vital for children's social and emotional growth in the preschool period (Zafaren et al., 2021). Drawing is an activity that can increase knowledge and stimulate children's growth (Utomo, 2020). Drawing is one of the main steps of the pre-writing phase in preschool children (Lin et al., 2015).
To be able to apply the exercise method to work on developing one's fine motor abilities in children, it can be done with drawing activities. A drawing activity for children is an activity to train children's hand movements, improve hand muscle performance as well as train skills and improve the motor skills of kids (Olivia, 2013). In several studies that drawing is one of the means of communication in small children and is an activity that is familiar to children (Einarsdottir et al., 2009; Izadkhah & Gibbs, 2015).

The goal of this study was to evaluate the drill method's efficacy using preschoolers' developing fine motor skills at Bhakti Asuhan Kindergarten Palembang City in 2020.

IMPLEMENTATION METHOD

this kind of study, a one-group pre-, and post-test pre-experimental design. The entire student body at TK Bhakti Asuhan Palembang makes up the research population. Simple Random Sampling is the method used for sampling. The number of samples is 26 respondents who have met the inclusion and exclusion criteria.

The tools used in the research are independent variables (drill method by drawing) using tools and materials in the form of SOPs, a paper containing drawing patterns, color tools, and pencils. While the dependent variable (fine motor development) in preschool-age children uses a tool or instrument in the form of a Developmental Pre-Screening Questionnaire (KPSP) from the Stimulation, Detection, and Early Intervention Implementation Guidelines on Child Growth and Development, Ministry of Health RI 2016. Furthermore, the data that has been collected is processed and analyzed. consisting of univariate and bivariate research. The distribution of each variable was calculated during the univariate analysis and in the bivariate analysis using the Marginal Homogeneity test with a significance level of 0.05 and 95% CI.

RESULTS AND DISCUSSION

Variable characteristics of respondents are described in table 1 below:

<table>
<thead>
<tr>
<th>Table 1. Characteristics of respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Mother’s Age (Years old)</td>
</tr>
<tr>
<td>22-27</td>
</tr>
<tr>
<td>28-33</td>
</tr>
<tr>
<td>34-39</td>
</tr>
<tr>
<td>40-45</td>
</tr>
<tr>
<td>Mother’s Job</td>
</tr>
<tr>
<td>Working</td>
</tr>
<tr>
<td>Doesn’t work</td>
</tr>
<tr>
<td>Child’s Age (Tahun)</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>
According to the table above, 16 respondents' mothers (or 61.5%) of the 26 respondents fall within the age range of 22 to 27 years old. The majority of respondents' parents (mothers) do not work or are housewives, as many as 21 people (80.8%). Most of the children (respondents) were 5 years old, as many as 11 people (42.3%) and 15 people (57.7%) were 6 years old. Most of the respondents were female, namely, 14 people (53.8%), and 12 people (46.2%) were males.

Table 2 Before and After the Drill Method, the Preschool Age Children's Frequency Distribution of Fine Motor Development by Drawing in Kindergarten Bhakti Asuhan Palembang City in 2020

<table>
<thead>
<tr>
<th>Fine Motor Development</th>
<th>Before</th>
<th></th>
<th>After</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Doubt with Possible Deviations</td>
<td>6</td>
<td>23,1%</td>
<td>1</td>
<td>3,8%</td>
</tr>
<tr>
<td>Doubtful</td>
<td>20</td>
<td>76,9%</td>
<td>2</td>
<td>7,7%</td>
</tr>
<tr>
<td>In accordance</td>
<td>0</td>
<td>0%</td>
<td>23</td>
<td>88,5%</td>
</tr>
<tr>
<td>Total (N)</td>
<td>26</td>
<td>100%</td>
<td>26</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2 shows the growth of the kids’ fine motor skills before the drill method by a drawing (Pre-test) was mostly in the doubtful category as many as 20 respondents (76.9%) and 6 respondents (23.1%) in the doubtful category with possible deviation. After the drill method by drawing (Post-test) the child's development increased, there were 23 respondents (88.5%) who experienced an increase in appropriate development, 2 respondents (7.7%) were in the doubtful category, and 1 respondent (3.8%) with development in the category of doubt with possible fine motor deviation.

Table 3. The Effect of Frequency Distribution of Respondents Based on Fine Motor Development in Preschool-Age Children Before and After the Drill Method by Drawing in Kindergarten Bhakti Asuhan Palembang City in 2020

<table>
<thead>
<tr>
<th>Fine motor development after the drill method by drawing</th>
<th>Total</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doubt with Possible Deviations</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Doubtful</td>
<td>2</td>
<td>100%</td>
</tr>
<tr>
<td>In accordance</td>
<td>23</td>
<td>88,5%</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>100%</td>
</tr>
</tbody>
</table>
It is clear from the data analysis in Table 3 that the respondents who were in the doubtful category before the intervention with the possibility of fine motor deviation became appropriate after the intervention as many as 5 respondents (83.3%) while 1 respondent (16.7%) remained in the doubtful category with possible deviations, after the intervention. And the respondents before the intervention were in the dubious category to fit as many as 18 respondents (90%) while 2 respondents (10%) remained in the doubtful category after the intervention.

Based on the statistical test before and after the drill method was carried out by drawing on preschool-aged children at the Bhakti Asuhan Kindergarten in Palembang using the Marginal Homogeneity test, it was found that the value = 0.000 (p-value < 0.05) indicating that the drawing approach had an impact on the drill method on the drill method. Fine motor development in preschoolers and the drill method withdrawing are effective in improving fine motor development in preschoolers at Bhakti Asuhan Kindergarten, Palembang City.

The outcomes of the data analysis conducted revealed that the fine motor development of preschool-age children before the drill method was carried out by drawing from 26 respondents, namely 20 respondents (77%) in the doubtful category and 6 respondents (23%) in the doubtful category with possible deviations. Fine motor. Where in this study all respondents were children in the category of doubtful or doubtful fine motor development with possible deviations.

Research conducted by Aquarisnawati, et al. Conveying that non-fulfillment of stimulation or physical activities, especially in fine motor skills at the age of TK/PAUD, will have an impact on children tending to experience impaired concentration when children are studying in elementary school, which is caused because The child has undeveloped fine motor abilities (Aquarisnawati, 2011).

Children's fine motor development can be stimulated in one way, namely through the drill method by drawing (Sutapa et al., 2021). Drawing exercises using the drill approach can help children develop their fine motor skills. The drilling approach entails repeatedly performing the same action seriously to hone a skill and make it permanent. The repetition of the same exercise makes this strategy stand out from the rest (Ruswandi, 2018).

At the age of 5-6, it is expected that children will be able to draw well according to patterns, draw figures (humans) with at least 3-6 parts of the body, draw houses or draw according to the imagination and creativity of the children themselves (Kemendikbud, 2019).

The results showed Differences in fine motor development in preschool-aged children before and after the drill method are shown by drawing a value of 0.000 (-value 0.05), which indicates that such differences exist before and after being given intervention.

The findings of this investigation are consistent with previous research by Endang Wahyuningsih (2016), entitled The effect of the drawing method by connecting dots on fine motor skills in preschool children at TK Gading Belang Wetan Klaten. According to the findings of data analysis performed by researchers, the majority of children's fine motor development that occurred before the intervention was 26.7% abnormal and after the intervention, the majority of children's fine motoric development increased by 40% normal. The results of the analysis carried out using chi-square obtained the value of -value = 0.015 (p-
value = 0.05). These results indicate that preschoolers' development of fine motor skills is impacted by the dot-connecting drawing technique (Wahyuningsih, 2014).

The findings of this study are also in agreement with studies by Partriani et al. on the efficiency of the drill approach in drawing exercises to enhance children's fine motor abilities in Barunawati Kindergarten Pontianak. The results showed that during the pre-test and post-test, the children's fine motor skills increased. One of them is the ability to make arches with the thumb and forefinger with a percentage of 44.4% increasing to 77.78%. The t hit value = 10,000 with a sig level according to the analysis of the Paired T Sample Test. At the significance level (a = 0.05), the value of the t table at (2 tailed) = 0.000 with df = n-1 = 9-1 = 8 is 2.30600. Inferring that the drill method used in sketching exercises using the pointillist technique is successful in enhancing the fine motor abilities of kids at Barunawati Kindergarten, Pontianak, we can say that when we strike the table, Ha is accepted and Ho is refused (Partriani et al., 2020).

CONCLUSION

The drilling method by drawing can improve fine motor development in preschool children at Bhakti Asuhan Kindergarten Palembang. The results of this investigation are anticipated to be taken into consideration and used as a reference in developing further research in the same field, especially aiming to enhance fine motor abilities in preschool-age children.

REFERENCES


