The Effect of Playdough Game towards Creativity of Early Childhood

R. Sihadi Darmo Wihardjo 1*, Syahrul Ramadhan 2, Nurhalidah 2
1 Environmental Education, Graduate Program, Universitas Negeri Jakarta, Complex of Universitas Negeri Jakarta, Building M. Hatta St. Rawamangun Muka, East Jakarta, Indonesia, 13220. Email: rsihadi@unj.ac.id
2 Yogyakarta State University, Jalan Colombo No. 1, Karangmalang, Yogyakarta 55281, Indonesia.

Abstract:
This research was conducted to know the effect of playdough game towards the creativity of early childhood. This research was a quasi experimental research with pretest-posttest control group design because this research was to know the effect of treatment the usage of playdough game towards the creativity of early childhood group B and compared to the control group (group A). This research was conducted at PAUD Harapan Bunda located in Bima Regency, NTB, with respondents were 15 early childhood kids in each group that would be investigated. Data collection technique used JASP program. The research results show that score \( p < \text{sig} (0.05) \), H0 is accepted and Ha rejected. Therefore, this research concluded that playdough game has effect towards the creativity of early childhood at PAUD Harapan Bunda.

Keywords: Playdough, Experiment, Early Childhood Education.

I. INTRODUCTION

Creativity is identified as the main goal of education and it is an essential skill in the 21st century that must be supported in schools (Wagner, 2010; Robinson, 2011; Chan & Yuen, 2014). In recent years, scholars and educators alike, have emphasized the importance of preparing students for the future by mastering complex problem solving and creative thinking (Wagner, 2010). Creativity is the basis for preschool curriculum and it can be defined as a procedure for creating new works. Teachers must provide material in which it can trigger children's imagination, provide opportunities to imagine and explain their ideas, respect their personalities, and encourage different perspectives / ways of thinking.

The teacher must also encourage children to participate in creative playing, caring, and appreciating the children's work. In addition, children's creativity must also be valued and they must be given trust (Dare, 2019). Early Childhood Education has the aim to develop the full potential of children in order to they can function as whole human beings according to the philosophy of a nation in the future. Children are individuals who just know about the world so that children are learning to communicate with others and learn to understand others. Children need to be guided in order to they know about this world, for example, the natural phenomena and the skills or abilities needed for life (Suyadi, 2014).

Playing is a way for children to learn about their bodies and their world. By exploring the things around him the child's brain will develop. By playing, they will develop imagination, ability, independence, creativity and social skills (Saraswati, 2009). Playing is an important activity for children. Fun learning activities in kindergarten are carried out through play activities. Game for children is a very fun activity, it elicits the excitement and it is as a place to express what the
children feel (Musfiroh, 2008). Playing is very necessary for children because it is important for their growth and development. Experts agree, children must play so they can achieve optimal development.

Children can develop a sense of self-worth through play, because by playing children gain the ability to master their bodies, objects, and social skills (Musfiroh, 2008). Mayesty (in Yuliani and Bambang, 2010: 39) states that children are naturally basically creative, it shows that what they do is unique and useful for themselves and even useful for others. One way to introduce the creativity earlier can be through playing, one of which is the game of playdough. Playdough games can improve the ability to think creatively and train the originality at work. Creative can be interpreted as working hard, diligently working, diligently learning to find new discoveries are beneficial to others, society, nation and country. We can see the creative nature in the world of education, for example, the competition of writing scientific papers, whose findings form a scientific role model (Musfiroh, 2008).

The development of children's creativity through playdough games has an important position in the aspect of motor development because in this activity each of children will use their imagination to make different shapes according to its imagination. In designing the game, they also use a variety of colors and shapes according to the needs of children. Basically the child's work is made through the activity of making, arranging the playdough will provide opportunities for children to make homemade objects.

Based on the observation of researcher in PAUD Harapan Bunda toward group B shows that children's creativity is still diverse. During conducting the activities, it is found that there are children who feel unable to do even though they have not tried it yet, when making a work, there are children who imitate their friends or imitate the examples given by their teacher. The efforts made by teachers in developing children's creativity are often through coloring activities using children's worksheets (LKA) and crayons so that they are not free to be creative and children get bored easily. The teacher has never implemented interesting activities to develop children's creativity, one of which is a playdough game. Playdough game is expected to explore, practice solving problems, express new ideas and be free to create. Therefore, based on the background of the problem, it is needed to find out how the playdough game effects the creativity of young children.

II. RESEARCH METHOD.
This research was a quasi-experimental research with Pretest-posttest control group design. It was due to determine the effect of the treatment / treatment of using playdough games on the creativity of early childhood in group B and it was compared with the control group (group A). This research was conducted at PAUD Harapan Bunda with 15 early childhood respondents in each group will be observed. The data collection techniques in this research obtained through observation, checklist, and documentation. This research data analysis technique used the JASP program (Setiawan, Suparno, Sahabuddin, Tasrif, & Ramadhan, 2020; Wihardjo, Nurani, & Ramadhan, 2020).

III. FINDING & DISCUSSION
Descriptive of Analysis. Descriptive analysis of control and experimental groups is an analysis of findings in the field, then, it is described through descriptive statistics or graphs. Descriptive analysis is conducted to determine the child's creativity score. Scoring children's creativity is based on the following score intervals.

Table 1. Categories of Child Creativity Development.

<table>
<thead>
<tr>
<th>Score</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>35-40</td>
<td>BSB</td>
<td>Develop excellently</td>
</tr>
<tr>
<td>25-34</td>
<td>BSH</td>
<td>Develop as expected</td>
</tr>
</tbody>
</table>
Table 1 above is used to determine the extent of children's creativity based on 4 categories. Determination of the score is based on the results of the pretest and posttest scores.

**Description of Pretest Results**

<table>
<thead>
<tr>
<th>16-24</th>
<th>MB</th>
<th>Starts to develop</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15</td>
<td>BB</td>
<td>Not develop yet</td>
</tr>
</tbody>
</table>

Figure 1 is a description of the results of the pretest in the experimental and control groups. The number of samples in each group is 15 children. Figure 1 shows as many as 6 children in the experimental group and 5 children in the control group whose creativity have not yet developed (BB). In the category of children starting to develop (MB), there are 3 children in the experimental group and 5 children in the control group. In the category of children developing as exceptio (BSH), there are 4 children in the experimental group and 1 child in the control group. In the category of children who have developed very well (BSB), there are 2 children in the experimental group and 4 children in the control group.

**Description of Posttest Results**

Figure 1 is a description of the posttest results in the experimental and control groups. The number of samples in each group is 15 children. Figure 1 shows that there are none of the children of the category have yet to develop (BB) in the experimental group, whereas in the control group there are 5 children categorized as undeveloped. In the category of children begin to develop (MB), there are 3 children in the experimental group and 5 children in the control group. In the category of children developing as exceptio (BSH), there are 4 children in the experimental group and 1 child in the control group. In the category of children who have developed very well (BSB), there are 2 children in the experimental group and 4 children in the control group.

**Assumptions Test**

**Normality Test**

The first prerequisite test in this study uses the normality test. The normality test in this study uses the Shapiro-Wilk test. The prerequisite test is analyzed using the JASP program. The distribution of data can be stated the normal distribution if the value of p>s sig or (p> 0.05). Following are the results of the prerequisite test analysis use the JASP program.

**Table 2. Test for normality**

<table>
<thead>
<tr>
<th>Test of Normality (Shapiro-Wilk)</th>
<th>Eksperiment</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>BB</td>
<td>0.294</td>
<td>0.286</td>
</tr>
<tr>
<td>MB</td>
<td>0.295</td>
<td>0.287</td>
</tr>
<tr>
<td>BSH</td>
<td>0.304</td>
<td>0.305</td>
</tr>
<tr>
<td>BSB</td>
<td>0.306</td>
<td>0.307</td>
</tr>
</tbody>
</table>
Pre_Experiment  0.900  0.095
Pre_Control  0.926  0.235

Note. Significant results suggest a deviation from normality.

Based on the analysis results in table 2 above, the Pre_experiment group shows a p value of 0.095, while in the Pre_Control group shows a p value of 0.235. Both groups in the analysis shows a value of p > 0.05 or p > sig or it could be said that the distribution of data in the sample to be examined in this research have fulfilled prerequisites of the normal distribution.

Homogeneity test
The second prerequisite test in this research uses the homogeneity test. Normality test in this research uses Levene's test. The prerequisite test is analyzed using the JASP program. The data can be said as homogeneous if the value of p > sig or (p > 0.05). Following are the results of the prerequisite test analysis using the JASP program.

<table>
<thead>
<tr>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.729e-4</td>
<td>1.000</td>
<td>28.000</td>
<td>0.985</td>
</tr>
</tbody>
</table>

Based on the analysis results in table 3 above, the p value is 0.985. These results show the value of p > sig or p > 0.05, or in other words the data meets the homogeneous prerequisite test.

Hypothesis testing
After testing the assumptions of normality and homogeneity the next stage is to test the hypothesis. Hypothesis testing in this research uses Paired Sample T-Test and analyzes using the JASP program. The hypothesis in this research is as follows.

H0 = Playdough game does not effect the creativity of early childhood

H1 = Playdough game does effect the creativity of early childhood

Test criteria:

P < sig = H0 is accepted and H1 is rejected

P > sig = H0 is rejected and H1 is accepted

<table>
<thead>
<tr>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.94</td>
<td>5</td>
<td>&lt; .00</td>
</tr>
<tr>
<td>0.57</td>
<td>1</td>
<td>0.573</td>
</tr>
</tbody>
</table>

Table 4. Hypothesis testing

Note. Student's t-test.

Table 4 is the hypothesis test table. The table shows the p value in the experimental group <0.001, and in the control group of 0.573. These results indicate that the value of p < sig (0.05) and in the control class p > sig (0.05). based on these results it can be concluded that H0 is accepted and H1 is rejected, it means that playdough game effects the creativity of early childhood.

IV. DISCUSSION

The results of the study shows that playdough game effects the creativity of young children. As for other things, it can also be seen how the comparison of creativity scores before and after treatment is given to each group. The comparison is based on the results of the pretest and posttest scores. Here is a comparison of the creativity scores in the experimental group.
Figure 3 above is a picture of the results of the pretest and posttest. These results illustrate how the influence of play play in the experimental class. The picture concludes that the child's creativity tends to increase after being given a treatment, besides that in the picture it can be seen that there are no children with the category of undeveloped (BB). It can be concluded that with playdough games, children's creativity has increased. Based on these images, other findings also show that the child's creativity at least begins to develop after a treatment is given. The description above is in line with the opinion of Dani & Early (2017) who point out that playdough provides a significant influence on children's creativity. It is due to playing game gives a chance for children to be creative in making something they want according to their own ideas. Besides playing playdough can give children the opportunity to express their imagination. This is reinforced by the opinion of Waldi (2014: 23) states that "the playdough texture is soft, smooth and supple, children can make shapes easily according to their own imagination". In addition, playdough also has the advantage of training children to create a work that is different from the others according to their own ideas. This is reinforced by the opinion of Rachmawati and Kurniati (2012: 78) argues that "playdough game can train originality in the work". Thus the point is, the use of playdough children are very interested in participating in ongoing activities than unusual, it is due to teachers try to develop children's creativity often by coloring activities using children's worksheets (LKA) and crayons. Hence, when researcher implements the playdough game, the children are very enthusiastic to follow the activity.

V. CONCLUSION

Based on the problem formulation in this research, then it can be concluded that playdough game has effect towards creativity of early childhood at PAUD Harapan Bunda in Bima Regency. It can be seen from the research results which show that there is difference of kids’ creativity before and after given playdough game treatment. The usage of playdough game towards kids’ creativity can give significant result. Through data analysis by using paired sample T-test JASP program obtained the result of p value < sig (0,05), H0 is accepted and Ha is rejected, in other words playdough game has effect towards the creativity of early childhood at PAUD Harapan Bunda.

VI. REFERENCES


