

# Development of Learning Models through Relay Games to Improve Fine Motoric Children Aged 5-6 Years

1<sup>st</sup> Lidia Vera Bessu  
Yogyakarta State University  
Yogyakarta Indonesia  
Vera06bessu@gmail.com

2<sup>nd</sup> Dr. Panggung Sutapa, MS  
Yogyakarta State University  
Yogyakarta Indonesia

**Abstract:** This study aims to determine the effectiveness of learning model through relay games to improve fine motor skills for children aged 5-6 years. This research and development refers to the Borg & Gall model. Development design is grouped into 3 steps, namely: (1) preliminary study, (2) development process, and (3) trial and finalization. The subjects of the initial (limited) field trials were 10 children and 1 teacher from the B TK group Sta. Theresia Tunas Harapan. The subject of field trials (broad) was 12 children from one school namely TK Sto. Dominic Weepangali and 15 children from Eben Haezer kindergarten. The operational test subjects were 40 children from Bina Taqwa Islamic Kindergarten. Data collection tools used in this study are interviews and observations. Data analysis techniques using *Paired Samples Test* with a significance level of 0.05. The results showed that the model of learning through relay games in terms of material and appearance according to experts was categorized as "very good" and the appearance of the media was categorized as "good". There is a difference in the value of the final learning outcomes between *pretest* and *posttest* after using the learning tools resulting from the development of the learning model through relay games with  $p < 0.05$  which is a significant value of 0,000. This shows that the learning model through relay games can improve the child's fine motor skills, especially the Islamic Kindergarten Bina Taqwa and Kindergarten St. Dominic.

**Keywords:** motorized smooth relay game learning model

## I. INTRODUCTION

Children are entrusted or mandated by the Supreme Creator to parents. As a deposit or mandate the child must be properly guarded in accordance with the wishes of the Creator himself (Helma Wati, 2105: 1). This agrees with Suyanto (2005: 1) that children are the next generation of the family and the successor of the nation. How happy parents who see their children succeed, both in education, family, community, and work. Besides being well cared for and cared for from

childhood, children must also be educated early on.

Education should know the needs of children to develop their motor skills. Children will be bolder at a young age, so the ability of their small muscles needs to be trained early. Then it takes an appropriate learning model and also the selection of media in accordance with the development aspects to be achieved.

Preschool is a period of play, so a modified game for preschoolers is an alternative to children's skills. The modified game emphasizes the ability of children in groups. Games with a group approach will attract children to participate in the learning process (Lestari & Ratna, 2016: 217-218). Using the right learning model and the selection of media in accordance with the development aspects that you want to achieve still prioritize the elements of the game. Things that can be said in the game elements are body movements or children's activities.

Learning is needed that can provide effective results and use appropriate media in the development of children's fine motor aspects. Using the learning model through relay games can be fun for children, and the game is interesting and in accordance with the developmental stage of children aged 5-6 years. In connection with the problems described above, the researcher conducted a study entitled "Development of Learning Models of Games *Relay* to Improve the Development of Fine Motoric Children aged 5-6 Years".

## II. METHODS

method used in this research is the research and development model *Research and Development* (R & D). Research and development are research methods used to produce certain products, and test the effectiveness of these products (Sugiyono, 2010: 333). The steps of the research and development method consisting of 7 steps (potential and problems, data collection,

product design, design validation, product testing, product revision, final product) can be summarized into 3 stages: Analysis of potential and problems (potential and problems ; data collection), development (product design; design validation), and product trials (product trials; product revisions; final products).

The research design used in the operational test was *pre-experimental design in the form of one-group pretest-posttest design*. The research design used is as follows:



Figure 1. One Group Pretest Posttest Design

Description:

$O_1$  =Pretest value (before being treated)

$O_2$  =Posttest value (after being treated)

The stages in this study are validation, trial, operational testing, data analysis.

**RESEARCH SUBJECT**

Subjects The test subjects for the development research that will be conducted include group B children in St. Dominic Weepangali kindergarten. TK Eben Haezer, and Islamic Bina Taqwa Kindergarten. In the limited trial the test subjects involved 1 class B group child from TK Sta. Theresia Tunas Harapan with 10 research subjects. Whereas in the field trial involving 2 class B groups from Sto. Dominikus Weepangali kindergarten is 13 children and kindergarten Eben Haezer as many as 15 children, so the subjek research is 28 children. Furthermore, to test the effectiveness carried out in group B in the Bina Taqwa Islamic Kindergarten as many as 40 children.

**RESEARCH TECHNIQUES AND INSTRUMENTS**

Techniques used in data collection in this study are interviews and observations. The instrument used is the interview and observation guidelines to determine the child's ability to perform relay games. Assessment is done by checklist on the observation sheet and analyzed in the form of 1-5 scoring (Eko P. W, 2009: 238). In the product effectiveness test using normality test with Kolmogorov Smirnov Shapiro-Wilk, homogeneity test using *independent sample t-test* and to determine the difference between the average pretest and posttest values using the *Paired Samples Test*.

**III. RESULT**

The product produced in this study is a learning model through relay games to improve children's fine motorbike with the following specifications, this learning model through relay game is packaged in CD form containing relay game activities carried out by children.

The results of children's observations on the learning model through relay games are described by referring to the score range 1-5. To test for normality and homogeneity. The test results of the relay game pretest and posttest data are as follows.

Table 1. Normality Test Of Pretest and Posttest.

	Kolmogorov-Smirnov (a)			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Pretest	,190	40	,001	,923	40	,009
Posttest	,181	40	,002	,934	40	,021

Based on the table, significant values are greater than 0.05 for pretest and posttest, so the data can be concluded that the data is normally distributed.

**HOMOGENITY TESTS OF PRETEST VARIATIONS AND POSTTEST**

Table 2. Test results Assuming Homogeneity of Variance *pretest*

Name of TK	Sig.	Description
Sto.Dominicus and Eben Haezer	0,256	Homogeneous

Table 3. Results of Homogeneity Variance *Posttest*

Name of TK	Sig.	Description
Sto.Dominikus and Eben Haezer	0.336	Homogeneous

Based on the above results obtained sig. to test the pretest homogeneity with sig values. Amounting to 0.256. While the homogeneity test for posttest with sig value. Amounting to 0.336. Because the value obtained is greater than 0.05

( $p > 0.05$ ). Then it can be concluded that the homogeneity test is fulfilled.

**AVERAGE OF PRETEST AND POSTTEST VALUES**

Table 4. Average pretest and posttest values of experimental class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pret est	16,9500	40	1,29990	,20553
	Post test	22,9000	40	1,27702	,20191

The average value of pretest in the respondent group of the experimental class was 16.95, while for the average *posttest* of the experimental class was 22.90. It is absolutely clear that the average experimental class differs between *pretest* and *posttest*.

**PRETEST AND POSTTEST DIFFERENCES TEST**

Table 5. Test results Differences in the results of the pretest and posttest

Statistical Test	Sig. (2-tailed)	Description
Paired Sample t-test	0,000	There is a difference.

On the *output of the Paired Samples Test*, it can be seen that the sig (2-tailed) value is less than 0.05. That is 0,000. So it can be concluded that  $H_0$  is rejected and  $H_a$  is accepted or the results *posttest* are better than the results of the *pretest* at the significance level  $< 0.05$ . There is a difference significant between the results *pretest* and *posttest*.

**DISCUSSION**

Fine motor is a movement that involves only certain parts of the body and is carried out by small muscles. Dewi (2005: 2) argues that fine motor is a skill that uses fingers, hands and wrist movements appropriately. This opinion is in accordance with that expressed by Sumantri (2005: 143) that fine motor is the use of a group of small muscles such as fingers and hands which often requires careful eye coordination and hand coordination.

Sujiono (2009: 1.14) also argues, fine motor is a movement that only involves certain body parts and is carried out by small muscles, such as the skill of using fingers and proper wrist movements.

So that this movement does not require energy but requires careful eye and hand coordination and in performing fine motor movements, the child also needs the support of other physical skills and mental maturity.

Yudha and Rudyanto (2005: 118), stated that fine motor is the ability of children to move by using smooth (small) muscles such as writing, squeezing, drawing, arranging blocks and inserting marbles. Similarly, according to Bambang Sujiono (2008: 12.5) states that fine motor is a movement that only involves certain parts of the body and is carried out by small muscle muscles, such as the skill of using fingers and moving the right wrist.

Research conducted by Rosyida Labonati (2012/2013) that through assignment methods can improve children's fine motor skills in group B TK Al-Khairaat Lolu. These conclusions are proven by the increase in fine motor skills of children in the first cycle for the ability to compose beams into a building to be 50% very good and good, the ability to tie shoelaces increased to 45% very good and good categories, and the last observed ability is children's fine motor skills in installing shirt buttons are 50% with good and good categories, these results are obtained from the sum of the two categories that are owned, which are very good and good.

**IV. CONCLUSION**

The learning model through relay games is developed in accordance with early childhood development. Activities in relay games are packed in a fun and young form followed, so that children are easy to do and can improve children's fine motor skills.

The development of the learning model through relay produces products that are packaged in the form of learning video CDs equipped with a guide to the implementation of learning.

It can be seen that the sig value. (2-tailed) of 0.000  $< 0.05$  means that it is different and significant so it can be concluded that there is a significant difference in fine motor skills between the initial ability of the child with the final ability after being treated. So it can be concluded that this model is effective in improving fine motor.

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