



## **The Effect Of Big Ball Game Modification On Gross Motor Development Of Elementary School Students**

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### **ABSTRACT**

*The purpose of this study was to determine the effect of playing big ball on increasing the gross motor development of elementary school students. The research method used pre-experimental with One Group Pre-test and Posttest Design. The population totalled twelve people using the total sampling technique to obtain ten samples. The data analysis technique used the paired t-test with the SPSS version 16 program. The test results for the Gross Motor Development (TGMD-2) instrument had a value of  $p = 0.000$ , and all of these data had a value of  $p < 0.025$  so there was a significant difference in the results of the ability test. the basic motion before and after being given treatment. This study concludes that the big ball modification game is effective in improving the gross motor skills of elementary school students. Suggestions that can be given are the innovation in the provision of motion learning material which is very necessary so that the goals of developing children's gross motor skills can be achieved.*

**Keywords:** Big Ball Game, Gross Motoric, Elementary School Students

### **INTRODUCTION**

Education is a reconstruction of various experiences and events experienced by individuals so that everything new is more directed and meaningful. From experience, education in previous years emphasized more on total individual development. Every individual has different needs. Individual learning is learning for all students, including programs for students who have developmental delays, emotional disorders, and students who have physical or mental disabilities. Each student is given the freedom to choose the learning material he wants and receive different training and vocational fields (Dewi & Faridah, 2022). Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and the skills needed by themselves and society (Imran Akhmad, 2022).

Physical Education plays a role in providing opportunities for students to be directly involved in various learning experiences through systematic physical activities. The provision of learning experiences is directed at fostering, as well as forming a lifelong healthy and active lifestyle so that in the end students improve in terms of the development of motor skills, physical abilities, knowledge, reasoning, appreciation of values (attitude-emotional-spiritual-social), and habituation of patterns a healthy life that leads to stimulating balanced growth and development (Dewi & Verawati, 2021). Motor skills will be largely determined by the opportunities available (Verawati et al., 2021). Systematic teaching in motor skills at this age will be more important than at other age levels (Dewi et al., 2020). A broad array of activities that will promote fundamental and progressive unique skills in the presentation should be planned, and skills related to aspects of freshness and specific skills should be developed. Sports and Health Physical Education is a lesson that is very closely related to practicum, one of which is a physical activity that requires every student to move (Meyfidianti et al., n.d.) The main objective of teaching physical education in elementary schools is to monitor students so that they improve their movement skills, besides making them feel happy and willing to participate in various activities. It is hoped that if they have a foundation for developing movement skills, cognitive understanding, and a positive attitude towards physical activity, they will later become healthy adults who are physically and spiritually fresh and have solid personalities (Abdi et al., 2020). According to (Hadi Wijaya et al., 2021) games for children are a form of fun activity that is done solely to please the activity itself, not wanting to get something that results from this activity. One game that involves a lot of movement skills is sports games.

The game is expected to be able to improve the gross motor skills of elementary school students. Gross motor movements are abilities that require the coordination of many limbs. One that is involved in gross motor movements is the activity of large muscles such as the muscles of the hands, legs muscles and the whole body of the child. The gross motoric development of children is earlier than fine motoric, for example, the child will first hold objects that are larger than small in size. This is because the child has not been able to control the movement of his fingers for his fine motor skills. According to (Hadi Wijaya et al., 2021) motor function is the movement made by the human body. Motoric comes from the word "motor" which is a biological or mechanical basis that causes a motion (Gallahue). Movement (movement) is the culmination of an action based on the process of motor movement. (Kurniawan et al., 2018) says that what is meant by gross

motor skills is everything related to body movements.

Children aged 6 to 13 years are the normal school age for children. Child development is quite influenced by the scope of the family. Every parent should know the growth and development of their child at this age. This is because the growth of children is very fast so it must be balanced with the provision of balanced nutrition and nutrition. Gross motor stimulation that can be done in early childhood, in general, is playing baseball, basketball, and football. This activity is very good for training muscle skills. Gross motor development is aimed at introducing and training basic movements, directing body movements and coordination, increasing control abilities, and improving physical skills and healthy lifestyles to develop healthy, strong and skilled individuals. (Sianturi, 2016) The definition of a modified game is: This modified game is intended for children who want to move all the time, find it difficult to stand still, have a strong curiosity, like to experiment and test themselves, and express themselves creatively. motor skills adapted to developmental characteristics. imaginative and happy. Modification of the big ball game is expected to be able to improve the gross motor skills of elementary school children, this is in line with research conducted by (Setiawan, 2022) which explains that based on the results of the study it can be concluded that there is a significant effect of training using modified basketball games, p. This is evident from the results of an increase in gross motor tests using the TGMD-2 (Test of Gross Motor Development) which is a gross motor test instrument that has been tested for its validity. The statistical test using the paired sample t-test also shows the significance that there effect of the modified basketball game on children's gross motor skills. Based on this, the authors assume that the modification of the big ball game can improve the gross motor skills of elementary school students.

## METHOD

The research conducted was a type of quantitative research with an experimental research design. Experimental research is research that is strictly conducted to determine the causal relationship between variables. One of the main characteristics of experimental research is the treatment (treatment) imposed on subjects or research objects (Sugiyono, 2010). The research design used was the One Group Pretest-Posttest Design. This study aims to find the relationship between variables from the modification of the modified Bosar ball game by increasing the movement coordination activities of elementary school students. The research design designed by the author can be seen in table 1 as follows:

**Table 1.**  
Research Design

Pretest		Posttest
O1	X	O2

## RESULTS

The results of data calculations carried out with SPSS, the results can be seen as follows:

### Uji Normality

The results of normality test calculations can be used to determine the next step of the analysis, whether to use parametric statistics or normality test calculations can be seen in table 2 as follows:

**Table 2.**  
Normality Test Results

	Game Mods	Mean and Standard Deviation	Lo	L-Table	A	Information
Elementary School Students' Motor Results	Big Ball Modification	<i>Pre-test</i>				
		$\bar{x} = 4,83$	0,033567	0,221	0,05	Normal
		$S = 3,48$				
		<i>Post-test</i>				
		$\bar{x} = 8,50$	0,149233	0,234	0,05	Normal
		$S = 2,97$				

The results of the normality test can be seen that the significance value of the pre-test and post-test is 0.884. Because of the significant value of 0.05, it can be seen that the data pre-test values and pretest values are normally distributed.

### Uji T

After the normality and homogeneity tests of each sample group are known, then an analytical test is carried out on the degree of gross motor improvement. The analysis of calculating the degree of increase in gross motor results in each group compared is obtained using the similarity test of the two average values, which can be seen in the following table:

**Table 3.**  
Paired Samples T-test Results

		Mean	N	Std. Deviation	Std. Error Mean
Big Ball Modification	Pretest	65.20	12	3.034	1.28
	Posttest	80.79	12	2.202	0.69

**Table 4.**  
 Paired Samples Correlation

		N	Correlation	Sig
Big Ball Modification	Pretest - Posttest	12	0.234	0.469

**Table 5.**  
 Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	95 % Confidence Interval of The Difference		T	df	Sig. (2-tailed)
					Lower	Upper			
Big Ball Modification	Pretest-Posttest	-1.56	4.05	1.50	-18.21	-12.80	8.57	8	0.000

From the results above, we can conclude that  $H_0$  rejected. It can be seen from the sig value of 0.000 which is smaller than 0.025. Therefore, the improvement in gross motor development outcomes was calculated by comparing the results before and after the big ball game change. Test and pre-test The test is accomplished by applying the t-test. The calculation process must specify several requirements, such as:

a. Hypothesis

- $H_0$  : There is no effect on gross motor development after being given a big ball game modification program
- $H_1$  : There is an influence on gross motor development after being given a basketball game modification program

b. The test uses a two-tailed test with a significance level of  $\alpha = 0.025$

c. Test decision

- $H_0$  is accepted if the significance is  $> 0.025$
- $H_1$  is rejected if the significance is  $< 0.025$

Based on the analysis of research data, the sample under study experienced a significant increase. Twelve practice sessions three times per week affect gross motor development. Based on the analysis, the modification of the big ball game is proven to have a significant impact on improving gross motor skills in elementary school students. The research process went as expected, although sometimes one of the children did not attend the training due to illness or family interests. However, in the research process, the children showed their sincerity, and it was proven that in every research the children were always active and present. When carrying out research the writer is always accompanied by the teacher.

## Discussion

Improving gross motor skills using modified big ball games has a significant effect on gross motor development, this can be seen from the results of the study also concluding that modified big ball games can have a positive influence on the gross motor development of these children. Several studies related to the research conducted (Setiawan, 2022) explain that there is a significant effect of training using a modified basketball game, this is evident from the results of an increase in gross motor tests using TGMD-2 (Test of Gross Motor Development) which is an instrument gross motor test that has been tested for validity. The statistical test using the paired sample t-test also shows the significance that there influence of the modified basketball game on children's gross motor skills. (Hadi Wijaya et al., 2021) explained that this study concluded that there was an increase in gross motor skills, this has been proven by the results of statistical and non-statistical calculations. Playing ball therapy has proven to be effective in improving gross motor skills in elementary schools. The ball playing therapy as a result of  $\text{sig} = 0.045 < \alpha = 0.06$  then  $H_0$  is rejected, which means there is a significant effect on increasing gross motor skills before and after treatment. Games to improve gross motor skills can be applied.

The game is expected to be able to improve the gross motor skills of elementary school students. Gross motor movements are abilities that require the coordination of many limbs. One that is involved in gross motor movements is the activity of large muscles such as the muscles of the hands, legs muscles and the whole body of the child. The gross motoric development of children is earlier than fine motoric development, for example, the child will first hold objects that are larger than small in size. This is because the child has not been able to control the movement of his fingers for his fine motor skills. According to (Rusfa Rahadean et al., n.d.) motor function is the movement made by the human body. Motoric comes from the word "motor" which is a biological or mechanical basis that causes a motion (Gallahue). Movement (movement) is the culmination of an action based on the process of motor movement. (Ribarto et al., 2019) says that what is meant by gross motor skills is everything related to body movements. So the hypothesis which states that there is an influence on gross motor development is positive.

## CONCLUSIONS AND SUGGESTIONS

This study concludes that the big ball modification game is effective in improving the gross motor skills of elementary school students. Suggestions that can be given are an



innovation in the provision of motion learning material is needed so that the goals of developing children's gross motor skills can be achieved.

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