



The Enhancement of Children's Gross Motor Skill of Group A Through Bocce Games

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Abstract

The purpose of this study was to determine whether the application of the bocce game can improve gross motor skills in children in group A aged 4-5 years in Hj. Isriati Baiturrahman I kindergarten Semarang. The approach used in this research is quantitative with the type of research using the experimental method and the form of experimental design that researchers used namely one-group pretest-posttest design. The subjects in this study were group A students in Hj. Isriati Baiturrahman I kindergarten Semarang, totaling 30 children. The data collection technique used in the study was a questionnaire using a Likert scale. The data analysis technique used is descriptive analysis and hypothesis testing through the Paired Sample T-test. Gross motor skills of children aged 4-5 years before being given treatment 6.67% then given the treatment of bocce games increased to 90%. The increase in gross motor skills in early childhood is 83.33%. Based on statistical calculations through the Paired Sample T-test, it shows that $-t_{table} > t_{count}$, is $(-2.045 > -13.325)$ with $sig = 0,000$, so H_a is accepted means there is a significant increase in the gross motor skills of group A children (ages 4-5 years) after being treated the bocce game method.

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INTRODUCTION

Early childhood is children who are aged 0-8 years according to the National Association for the Education of Young Children, (Takdirotun Musfiroh 2008: 1). In childhood, the world of children is synonymous with fun, joy, and excitement, we often hear that at this time the child is experiencing a golden age or a golden period where 80% of the child's brain is working which is marked by changes in the child's rapid development both physically, cognitive, social-emotional, religious moral values, language. Children cannot be separated from activities that make themselves feel good, they can vent happiness, excitement, and pleasure through play because the world of children is the world of play. This period is the right time to lay the foundations for developing physical, linguistic, social-emotional abilities, self-concept, moral arts, and religious values so that efforts to develop all the potentials of early childhood must be stimulated so that children's growth and development are optimally achieved.

Hajar Dewantara (in Martiyana, 2018) said that education not only develops in the cognitive aspects but also other aspects of development. In line with this, kindergarten (TK) is a form of early childhood education that is on formal lines that provide educational programs for children aged 4 to 6 years that aims to help develop various physical and psychological potentials including moral, religious, social-emotional, independence, cognitive, physical motor language and art to be ready to enter further education. While in kindergarten education, children have the opportunity to develop various potential physical activities as stated in the Regulation of the Minister of Education and Culture Number/ U / 1992 Chapter I, article 2, paragraph 1 that "Kindergarten Education is a place to help the growth and the development of physical and spiritual of students according to the nature of children ". The Regulation of the Minister of National Education of the Republic of Indonesia Number 58 the Year 2009 concerning Early Childhood Education Standards Article 1 paragraph (1) states that Early Childhood Education Standards consist of: Standards for Achievement of Development; Standard of Educators and Educational Personnel; Content Standards, Process Standards, and Assessment Standards; and Facilities and Infrastructure Standards, Management Standards and Financing Standards.

Gross motor is the ability of body movements that use large muscles, most or all members of the gross motor body are needed so that children can sit, kick, run, go up and downstairs

and so on (Sunardi and Sunaryo, 2007: 113-114). Motor development is the development of physical movements through activities in the nerve center, and the muscles coordinated by Hurlock (1978: 150). At the time of children aged 4-5 years, the child can control movements roughly involving parts of the body such as walking, running jumping and others. After the age of 5 years, major developments in better coordination control also involve the small muscles used to throw and catch the ball. Komputerisna (2016) states that gross motor skills play an important role in human physical movements in daily life. Gross motor skills are closely related to movement. Early childhood should also practice developing gross motor skills to be more coordinated and develop as expected. To improve the gross motor skills of children is a movement that increases agility, balance, coordination, muscles, and other nerves. Characteristic of early childhood is playing, is a fun activity for children. Play is one of the main tools in practice for growth and development. When children are playing, many aspects of development that are directly involved are increasingly developing (Sofyan: 2016). According to Kurniadi (2015), the media can maximize gross motor skills.

Based on observations of the researcher at Hj. Istriati Baiturrahman I kindergarten Semarang, that the children's gross motor skills have not developed following the Standard Level Achievement of Child Development (STPPA) in the Regulation of the Minister of Education and Culture of the Republic of Indonesia No. 137 of 2014 the level of achievement of 4-5 years old gross motor development that is throwing things in a directional direction, catching things appropriately, making anticipatory movements, kicking things in a direction and utilize the game tools outside the classroom. The lack of teacher efforts and learning strategies that do not stimulate the development of children's gross motor skills and teachers only focus on academic and religious activities when activities in the classroom such as writing and reading and less focus on developing children's gross motor skills. The gross motor skills of children are seen from observations in the field when learning children prefer academic activities in the room such as drawing, coloring, folding paper. During breaks, the children are less free to play outside the classroom and play ball games because of limited space outside the classroom. The lack of providing games to improve the gross motor development of children following the elements of gross motor development, namely strength, agility, speed, balance, accuracy,

coordination, power, and flexibility.

According to Andriani (2018), ball games can influence a child's motor (physical) development. By playing ball, it is hoped that it can improve the ability of children to use their large muscles and this game can provide insight to children about a game that is around. Playing ball can improve children's gross motor skills; it is evidenced by the results of observing the child's activity and agility in playing ball. To increase the gross motor skills in these children, stimulation that can improve gross motor skills and improve the gross motor skills of children through the bocce game is needed. According to Sumardi (2009: 1), the bocce game is a game by rolling a bocce ball (a bocci is a ball played). The bocce game was chosen because, in the bocce game series, it contains a lot of training material related to the development of gross motor skills such as holding the ball, throwing the ball, rolling the ball and moving the arm muscles to swing the ball. Also, ball media is used because children like balls.

The bocce game is expected to increase the children's gross motor skills; because bocce game contains gross motor training material that is very important for children in carrying out activities. Based on the description above, researchers are interested in conducting a study entitled "The Enhancement of Children's Gross Motor Skill of Group A through Bocce Games ". The purpose of this study was to determine the application of bocce games that can improve gross motor skills in children in group A aged 4-5 years. The advantage of this research is that the reader can know that in improving gross motor skills can use the bocce game.

RESEARCH METHODS

The approach in this study is a quantitative approach to the type of experimental research approach. This study uses a one group pre-test post-test design. One group pre-test post-test design research is a study conducted in one group without any comparison group (Arikunto, 2013). The dependent variable in this study is the gross motor skills of children aged 4-5 years, while the independent variable in this study is the bocce game. The populations in this study were all children in class A in Hj. Isriati Baiturrahman I kindergarten Semarang who had the characteristics of gross motor skills totaling 60 children. The researchers took samples from group A which has the characteristics of gross motor skills totaling 30 children. This research was conducted at Hj. Isriati Bai-

turrahman I kindergarten Semarang, Central Java. the data collection techniques in this study using a questionnaire scale of gross motor skills of children, 32 valid items that have been tested so that it can be used in research and documentation, while the data analysis techniques used are normality test, hypothesis testing with paired sample t-test, and percentage techniques.

RESULTS AND DISCUSSION

This section is an explanation of the results of research relating to the improvement of the gross motor skills of group A children through the bocce game. Based on the pretest data results can be seen as follows:

Table 1. Pretest Results Data

No.	Interval Value	Category	Frequency	Percentage
1	32,00 – 66,00	Very Low	2	
2	67,00 – 81,00	Low	26	
3	82,00 – 106,00	High	2	
4	107,00 – 131,00	Very High	0	0%

From the table above, it is obtained that the number of children who have gross motor skills with a very low category is 2 children or 6.67% while the children who have gross motor skills with low category are 26 children or 86.67% and children who have gross motor skills in high category is 2 or 6.67%. In general, the level of gross motor skills of children aged 4-5 years before being treated using the bocce game method for the very low category was 6.67%, the low category was 86.67% and the high category was 6.67% from 30 children. While the posttest data results can be seen as follows:

Table 2. Posttest Data Results

No.	Interval Value	Category	Frequency	Percentage
1	32,00 - 66,00	Very Low	0	0%
2	67,00 - 81,00	Low	2	6,67%
3	82,00 - 106,00	High	27	90%
4	107,00 - 131,00	Very High	1	3,33%

Table 3. Paired Sample T-test Results

Pair	Paired Differences		Std. Error Mean	95% Confidence Interval of the Difference		t	Df	Sig. (2-tailed)
	Mean	Std.Deviation		Lower	Upper			
Pretest - Posttest	20,533	8,423	1,538	-23,679	-17,388	13,352	29	,000

From the table above, it is obtained that there are 2 children or 6.67% with gross motor skills in the low category, while the children with gross motor skills in the high category are 27 children or 90% and children who have the very high category in gross motor skills is 1 or 3.33%. In general, the level of gross motor skills of children aged 4-5 years after being treated using the bocce game method for the low category was 6.67%, the high category was 90% and the very high category was 3.33% of the total number of 30 children.

This shows that there is an increase in the number of gross motor skills behavioral scores before and after being treated. From the data above, it can be concluded that the results of the research that bocce games can improve the gross motor skills of children aged 4-5 years. Evidenced by the results of the calculation of Paired Sample t-Test are as follows (table 3) :

In the Paired Sample t-Test calculation there is a t-test criterion that H_0 is rejected and H_a is accepted if the probability value (sig 2 tailed) < 0.05 . The above results can be obtained that the probability value (sig 2 tailed) is $0,000 < 0.05$, then H_a is accepted and H_0 is rejected if $(-t_{\text{table}} > t_{\text{count}} \leq t_{\text{table}})$ and H_0 and H_a are accepted if $(t_{\text{count}} < -t_{\text{table}} \text{ or } t_{\text{count}} > t_{\text{table}})$. The hypothesis in this study is that there is an increase in the gross motor skills of group A children aged 4-5 years. In the Paired Sample t-test table, it can be seen that the t_{count} is 13,352. Based on the results of the t-test calculations obtained values $-t_{\text{table}} > t_{\text{count}} \leq t_{\text{table}}$ is $(-2.045 > -13.325 \text{ or } (-13.325 > 2,045)$, with sig = 0,000, so that H_0 is rejected and H_a is accepted means there is a significant increase in the gross motor skills of the group A children (age 4-5 years) after being given the bocce game method, a significant difference can be seen from the value of sig 2 tailed < 0.05 which is 0,000, while based on the results of the percentage values can be seen as follows:

Table 4. Improvement Test

Treatment	Percentage
Before	6,67%
After	90%

The above results can be seen the number of gross motor skill levels of early childhood before given treatment is 6.67%, after giving treatment rose to 90% in high criteria. This shows that the gross motor skills of early childhood in terms of the application of the bocce games has increased by 83.33%.

According to Veny and Intan (2015), gross motor skills are abilities that require coordination of most parts of a child's body. To stimulate a child's gross motor skills can be done by training children to jump, climb, run, tiptoe, walk and so on. Hidayanti (2013) states that gross motor ability is the ability associated with the movement of large muscles in controlling body movements through locomotor, nonlocomotor and manipulative abilities.

There are 8 elements of gross motor skills learning, namely strength, speed, agility, balance, accuracy, flexibility, coordination, power, and flexibility. In this study, the research instrument was to assess the children's gross motor skills using 6 elements of the children's gross motor learning that had been adapted to the media of the bocce ball game namely strength, agility, balance, accuracy, flexibility, and coordination.

Based on the results of statistical calculations that have been done after being given treatment based on statistical calculations, the results obtained in the calculation of the t-test through paired sample t-tests using the SPSS program. T-test results obtained $t_{\text{count}} > t_{\text{table}}$ is $(13,325 > 2,045)$, with a significant value (2-tailed) of 0,000 so that H_0 is rejected and H_a is accepted means there is a significant increase in the gross motor skills of group A children (age 4 -5 years) after being

given the bocce game method. It means that there is a significant increase in the gross motor skill of early childhood after being treated using the bocce game model

Based on the results of calculations using the percentage technique, obtained the value of the development of gross motor abilities of early childhood pretest results of 6.67%, while the value of the development of the gross motor skill of early childhood, the posttest results is 90%. The improvement in the development of gross motor skills of early childhood can be seen from the difference in the percentage between groups by 83.3%. It means that the development of gross motor skills of early childhood based on the application of the bocce game increased by 83.3%.

An increase in gross motor skills of early childhood with the application of the bocce game model. According to Sumardi (2009), the bocce game is a game by rolling a bocce ball (a bocci is a ball played). In the bocce game, there is a combination of play and gestures that are beneficial for stimulating the nerves and the motor movements of the body. Bocce can train hand and foot motor skills, sharpen concentration and practice socializing. The teacher easily applies this learning because this method is very simple and as learning that is not monotonous and the child does not feel bored.

Through the bocce game model, children's gross motor skills can be improved. Initially, children are still hesitant to do activities and are still shy with the researcher. The gross motor skills of the child initially still need stimulation because the child's hands are still stiff when doing activities, the child is still confused on how to throw or roll the ball properly, the child still cannot maintain balance and strength when throwing or rolling the ball. The Increasing of gross motor skills of early childhood based on the application of the bocce game model is supported by the opinion of Sumardi (2009), the bocce game can increase motor activity that includes the skills of large muscles, this movement is more demanding physical strength and balance commonly referred to as gross motor skills. According to Triana (2018), using a play model given to children has significantly increased, especially the ability of children to throw a ball in a bocce game. The bocce game is given is modified so that the child prefers the game.

One of the development of gross motor skills of early childhood that is seen when the application of the bocce game is that the child starts to be confident when doing activities, the child has understood on how to throw or roll the

ball correctly, the child can maintain balance and strength when throwing a ball or rolling a ball. Children begin to get familiar with the researcher and enjoy playing the bocce game and can interact well with their friends.

According to Nur (2017), children's motor development will be visible through the movements and games they can do. If the child moves a lot, the more benefits a child can get when the child is more skilled at mastering motor movements. The development of gross motor skills must be given early, with the gross motor abilities of children, it can help prepare the child's readiness to face the problems that will be faced in the future, especially related to strength, speed, coordination, endurance, accuracy, balance, agility, and power.

Based on the results of the discussion of the research above, it can be seen that the application of the bocce game can affect the increase in gross motor skills of early childhood as indicated by the development of gross motor skills of children, it can be seen that the child has been able to throw or roll the ball correctly, the child can maintain balance, the child can catch the ball properly and the child can interact with the environment.

CONCLUSION

Based on data analysis and discussion of the results of research on the application of bocce games, it can be concluded that the gross motor skills of children increase through the application of bocce games. Judging from the results of the t-test showed $p < 0.05$, namely $\text{sig} = 0,000$. The percentage increase of 83.3% with an increase in children's gross motor skills, especially in the elements of the development of the child's gross motor skills such as strength, balance, endurance, agility, accuracy, flexibility, and coordination.

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