

EFFECT OF TRADITIONAL GAMES, LEARNING MOTIVATION AND LEARNING STYLE ON CHILDHOODS GROSS MOTOR SKILLS

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Abstract

This research is aimed at finding out the effect of traditional games, learning motivation, and learning styles on childhood gross motor skills at Group B Kindergarten, Banten Province. Research method used was experiment by 2x2x2 factorial design and involving sample of 60 students selected randomly. Instrument for measuring gross motor skills has been developed with reliability was .876. Data analysis has been conducted by applying three-way ANOVA. Research finding revealed that there were significant differences in childhood gross motor skills based on three factors such as traditional games, learning motivation and learning style. Gross motor skills in childhood who taught by traditional game of Boy-boyan, a strong learning motivation and kinesthetic learning style were higher than those who did not teach them at all. There was a significant interaction effect between traditional game and learning style on childhood gross motor skill, between learning motivation and learning style on childhood gross motor skills. Therefore, if childhood gross motor skills want to be improved, then learning motivation and style could not be neglected since traditional games have been selected as one of instructional strategies by teachers.

Keywords: *Traditional Games, Learning Motivation, Learning Style, Gross Motor Skills, Thre-way ANOVA*

INTRODUCTION

One aspect of child development that need to be optimized from an early child-hood is gross motor skills, because its existence is essential to maximize growth and development of the child's body that further supporting the optimization of another aspect development. The gross motor development of children is important as well as other aspect development, so that the child's inability to perform physical activities will make children less confident, even lead to a negative

self-concept in physical activity. The good gross motor skills will also be a positive impact on the children's health level, because the children will love to exercise and perform movements that can improve blood circulation, respiration and the formation of the ideal posture.

Despite the fact that the child's gross motor skills have an important role for the development of other aspects, it is not received the attention as well as the development of cognitive aspects. In the practice of early childhood environmental education, the cognitive development also tend to be larger than the gross motor development aspects. More teachers teach the children things that can improve cognitive and affective abilities. So, the minimal effort to perform the learning activities that can improve gross motor skills of children. It was also supported by Shala (2009: 970) who said that the development of children's motor skills has lacked the opportunity in its development. Many preschool children do not have a planned activity and structured in the gross motor activities and only by children's choice. In fact, it is very important for children to do games and activities are planned and structured process of the gross motor development. According to Morano, Colella and Caroli (2011:42), during preschool, the children get a lot of game activity behaviors or referred to the basic motor skills. It provides the basis for acquiring complex skills in the future and relating to health, fitness and behavior of the physical activity component.

The gross motor skills related to the child's skill in moving the large muscles of the arms and legs. It is as stated Doe and Taylor (2007:86), gross motor skills are movements of the large muscles of the arms and legs. Marotz and Allen (2013:38) suggests that the gross motor refers to large muscle movements such as locomotor skills (walking, swimming or skipping) and non-locomotive movements (sitting, pushing, and pulling or squatting). The gross motor skills are large muscle movement, such as locomotor skills (running, jumping or swimming) and non-locomotor movements (sitting, pushing and pulling). Meanwhile, Sigelman and Rider (2012:145) said that the gross motor skills is skills such as kicking the legs or drawing large circles that involve large muscles and whole-body or limb movements.

According to Mitchell and Jennifer (2016: 40), the gross motor skills has three dimensions, namely locomotor skills, non-locomotor and manipulative skills. The locomotor skills are running, sliding, jumping, prancing and leaping. The non-locomotor skills are basic skills that include balancing skills, rotating, and static shapes formed by coiling, stretching, turning back, and bowing.

The manipulative skills are indicated by throwing, catching, leading by the feet and hands, and kicking.

Many options can be used to improve the children's gross motor skills, for example the use of traditional children's games are widely encountered in everyday life. The traditional games are capable to increase the children's gross motor skills. It consists of Boy-boyan and Dampu. The traditional games have elements of locomotor, non-locomotor and manipulative movement. The locomotor movement indicated by running and jumping. The non-locomotor movement indicated by lifting, holding, twisting, and bending. The manipulative movement indicated by throwing and directing.

Associated with play concept, Erikson cited in Schousboe and Winther-Lindqvist (2013:2) identified that play as a manifestation of the child's ability to control reality through experiments and planning. In the Encarta World English Dictionary as quoted Frost, Wortham and Reifel (2012: 20) revealed that play is to take part in an enjoyable activity for the sake of amusement, and to do something for fun, not in earnest.

Some previous research related to the effect of the traditional games on the children's gross motor skills, there are three of them. First, the research of Adbdullah et al. (2013) who said that there was a significant difference between the children's gross motor skills who received treatment with traditional games and the children who did not receive treatment. Second, Akbari et al. (2009) who did a research on the influence of traditional games on the development of basic motor skills of children. The results showed that the traditional game was more effective in improving the children's gross motor skills than the children with the their daily activities. Last, the research of Ratnaningsih Lestari (2016) who found that the game modifications was effective in improving the children's gross motor skills.

Other factors that should be singled out in optimizing the children's gross motor skills consist of learning motivation and learning styles. The learning motivation is needed in order to optimize the gross motor skills. In order to have a strong learning motivation, it will encourage the activity of the children. So, there will be more to perform movements that can train gross motor skills. Wentzel and Brophy explain that learning motivation refers to a student's propensity to value learning activities: to find them meaningful and worthwhile, and to try to get the intended benefits

from them. It means that the tendency of students to value learning activities, to find meaning and value, and to get the benefits intended. It is also supported by WhileZhao, Olivera, and Edmondson. They explain that the extent to the which an individual desires to improve the task of knowledge or skills by analyzing errors. It means that how far the level of the individual is willing to increase the knowledge or skills to analyze the error task.

The learning style is also important to help optimizing the gross motor skills. According to Blerkom (2009: 9), learning styles are the preferred way that you acquire, process, and retain information, the way you learn best. It is also supported by Wong (2009: 5) who describes the learning styles are a tendency to use a visual, auditory, or kinesthetic modality when there is a choice of ways to learn and process new information.

Based on the explanation above, this research aims to: (1) determine the differences between children's gross motor skills and three factors such as traditional games, learning motivation and learning styles, (2) determine the interaction effect of traditional games and learning motivation on the children's gross motor skills, (3) determine the interaction effect of traditional games and learning styles on the children's gross motor skills, (4) determine the interaction effect of learning styles and learning motivation on the children's gross motor skills, and (5) determine the interaction effect of traditional games, learning styles and learning motivation on the children's gross motor skills.

RESEARCH METHODOLOGY

This research used a quantitative approach to the experimental method with factorial design $2 \times 2 \times 2$. The experiments carried out for 2 months with 16 sessions. The population was all children at group B kindergarten in Banten province, academic year 2016/2017. The research's sample was 60 students from Adina kindergarten and Al-Muhajirin kindergarten. They were taken by using the multistage random sampling technique. Data collecting used was a questionnaire with three choices beforehand tested for validity and reliability. Based on the results of testing, the validity of 18 items used to measure the gross motor skills. It known for the 18 items is all valid with Cronbach's alpha coefficient = 0.876. For learning motivation variables of 16 items, it known to all items was valid with Cronbach's alpha coefficient = 0.920. For learning style, it known from

the 15 items is all valid with Cronbach's alpha coefficient = 0.821. The data were analyzed by using Anova two-tailed.

RESEARCH FINDINGS

Based on the results of experiments that have been done, it gets a score of the gross motor skills. The data obtained has been tested for normality and homogeneity. The results of those tests concluded that the data has been qualified analysis. Descriptive statistics that describe the gross motor skills score for each treatment are presented in Table 1.

Table 1. Descriptive Statistics for each cells based on 2x2x2 factorial design

Descriptive statistics	Traditional games (A)		Learning Motivation (B)		Learning Styles (C)	
	Boy-boyan (A1)	Dampu (A2)	High (B1)	Low (B2)	Kinesthetic (C1)	Visual (C2)
Minimum score	38	34	36	34	38	34
Maximum score	53	51	53	51	53	51
Means	44.37	41.83	46.23	39.97	45.15	40.42
Standard-deviation	4.65	4.85	3.98	3.51	4.35	4.25

Based on the means value obtained in a description of the traditional game, the children's gross motor skills show an average score on the game Boy-boyan (44.37) is higher than Dampu (41.83). For factor of learning motivation in the children's gross motor skills, it shows an average score on high learning motivation (46.23) is higher than low learning motivation (39.97). For learning styles, the children's gross motor skills show that an average score on kinesthetic learning style (45.15) is higher than visual learning style (40.42). Furthermore, from the data obtained by testing the hypothesis by using analysis of variance (Anova), the result is presented in Table 2.

Table 2. Anova Result from the Effect of Traditional Games, Learning motivation and Learning Styles through the Children's Gross Motor Skills

Source of Variance	SS	df	MS	F-cal	F-tab	
					.05	.01
Between	75.131	1	75.131	10.525 **	4.027	7.149
Inter-B	419.093	1	419.093	58.713 **	4.027	7.149
Inter-C	161.126	1	161.126	22,573 **	4.027	7.149
A x B	4.778	1	4.778	0,669ns	4.027	7.149
A x C	113.311	1	113.311	15.874 **	4.027	7.149
B x C	45.476	1	45.476	6.371 *	4.027	7.149
A x B x C	14.552	1	14.552	2,039ns	4.027	7.149
In	371.178	52	7.138			
Total	112 779	60				

* $P < .05$, **; $p < .01$; ns: non significant

The analysis of variance result showed that the effect of traditional games on the gross motor skills acquired $F\text{-count} = 10.525 > F\text{-table} (7.149)$. H_0 is rejected, so it can be concluded that the traditional games have a significant influence on the children's gross motor skills. The effect of learning motivation on the gross motor skills acquired $F\text{-count} = 58.713 > F\text{-table} (7.149)$. H_0 is rejected, so it can be concluded that the learning motivation has a significant influence on the children's gross motor skills. The effect of learning styles on the gross motor skills acquired $F\text{-count} = 22,573 > F\text{-table} (7.149)$. H_0 is rejected, so it can be concluded that learning styles have a significant influence on the children's gross motor skills.

The effect of interaction between traditional games and learning motivation on the gross motor skills acquired $F\text{-count} = .669 < F\text{-table} (4.027)$. H_0 is accepted, which means there is no interaction effect between traditional games and learning motivation on the children's gross motor skills. The effect of interaction between the traditional game and the learning styles on the gross motor skills acquired $F\text{-count} = 15.874 > F\text{-table} (7.149)$. H_0 is rejected, which means that there are significant interactions between traditional games and learning style of the children's gross motor skills. The effect of interaction between learning motivation and learning styles on gross motor skills acquired $F\text{-count} = 6.371 > F\text{-table} (4.027)$. H_0 is rejected, which means that there are significant interaction between learning motivation and learning style on the children's gross motor skills. The effect of the interaction between traditional game, learning motivation and learning

styles on the gross motor skills acquired $F\text{-count} = 2,039 < F\text{-table} (4.027)$. H_0 is accepted, which means there is no interaction effect between the traditional game, learning motivation and learning styles on the children's gross motor skills.

DISCUSSION

The research result empirically proved that traditional games have a significant influence on the children's gross motor skills. The Boy-boyan game shows higher result in influencing the children's gross motor skills than the traditional games of Dampu. It indicated that the traditional game of Boy-boyan was more effective or better in improving the children's gross motor skills than the traditional games of Dampu.

Keep in mind that the playing is a child's world, so that children cannot be separated from the world of playing. The gross motor skills are affected by the children's physical activities, which is generally done through a physical game. Particularly in Indonesia, the traditional games have an important role in developing the children's gross motor skills. It is because traditional games involve a lot of physical activity, such as running, hitting, kicking and other physical activities. Two of the traditional games are Boy-boyan and Dampu. According to Ismail cited in Rahmadani (2014:309), traditional game is a type of game that contains the cultural values and essentially is a heritage that should be preserved in its existence. Dinata cited in Alawyah (2014: 178) reveals that the traditional game is to have an element of physical skills, speed of thinking and the social implementation and cultural values.

According to Syamsiana and Lutfi (2014:3), Boy-boyan is a game that can train the cooperation between the players and hone the children's ability to develop a strategy to win the game. Meanwhile, according to Christiyati cited in Syamsiana and Lutfi (2014:3), the Boy-boyan is one of traditional game which expected to become a medium to optimize the kind of children's intelligence as cognitive intelligence, kinesthetic intelligence, naturalistic intelligence, linguistic intelligence, spiritual intelligence. It teaches the positive values and healthy in the hope of children will be easier to understand the material. In brief, the learning outcomes will be increased and the learning process will not be boring.

The traditional game of Boy-boyan can also provide a number of benefits to children. They have some benefits to: (1) train the motion because there are four basic movements that exist in the

traditional game of Boy-boyan such as running, rolling a ball, throwing the ball and shooting the ball, (2) exercise the creativity in thinking and the ability to improve morale and motivation to play the games, and (3) train sportsmanship.

The previous studies also had much to prove the important role of traditional games in influencing the gross motor skills. It was as evident in the research of from four researchers. First, Pratiwi and Kris (2016) showed an increase the gross motor skills in learning outcomes with their treatment of the traditional game. Second, Darmayeti, Endang and Halide (2014) found an increase in the gross motor skills at 90% after the hopscotch of the traditional game. Third, Samsiar (2014) concluded that the traditional game of jump rope can improve three aspects of the children's gross motor skills such as balance, body strength, and agility. Last, for traditional game of Boy-boyan, the research result conducted by Pradana (2013) who showed a significant effect of the traditional game of Boy-boyan on the gross motor movement throws early childhood.

The traditional game of Boy-boyan can improve the gross motor skills in order to improve a physical fitness, which is an important aspect to be able to develop the gross motor skills. It was as evidenced in research of Pangga, Rejeki, and Abduh (2015) who proved the existence of a significant increase in the students' level of physical fitness and suitable to be applied in particular to the beginner athlete since proven to improve physical conditions, especially on the students' physical fitness. Thus, the research results can support the theory and previous research results that prove the effect of the traditional game on the gross motor skills.

The results also prove that the learning motivation has a significant influence on the children's gross motor skills. From the average value obtained is known that the children who have demonstrated high learning motivation in the gross motor skills are better than children who have low learning motivation. These findings indicate that the learning motivation has an important role in the development of the children's gross motor skills.

The learning motivation is an individual intensity to make efforts related to increase knowledge and skill. Therefore, the learning motivation will determine the activity of a person. The children who have the motivation tends to be more active in conducting the activities, such as actively ask and do some experiments for curiosity. While children who have low motivation will tend to be passive, so there is a lot of movement. Those conditions will certainly have an impact on

the development of the children's gross motor skills. In this case, the children have a high learning motivation will likely have a higher the gross motor skills than children who have low learning motivation. If children have low motivation, it will cause children to be passive. In brief, it does not encourage children to do physical movements that help the development of the children's gross motor skills.

According to McClelland cited Martainah (1984: 30), the children who have high learning motivation are reflected in some behaviors such as: (1) has a greater confidence in dealing with tasks related to achievement, (2) has the nature of future oriented and more defer gratification for rewards in the future, (3) choose a task with difficulties being, (4) do not like to waste time, (5) find a partner would rather choose the person who has the ability of the sympathetic person, and (6) more resilient to complete the task.

The child characteristics show an active attitude who motivated, so it allows the children a lot of moves that could ultimately accelerate the development of the children's gross motor skills. The gross motor skills shown such as walking, running, kicking, and hitting. So, the motivation is a basic principle that is required to have activity in motion. In other words, the motivation is the basic function to develop the gross motor skills, so it is necessary in the development of the children's gross motor skills.

Furthermore, this research also proves that learning styles have a significant influence on the children's gross motor skills of children. From the average value obtained, it is known that children who have a kinesthetic learning style showing the gross motor skills higher than children who have a visual learning style. These findings indicate that learning styles play an important role in the development of the children's gross motor skills.

Children have different styles in acquiring knowledge as a result of inherent differences in the child and the influence of the environment, especially the family. Types of learning styles that are usually owned by children are kinesthetic and visual. In the kinesthetic learning style of children were more likely to easily capture information with a touch or movement. In other words, the children are more likely to prefer to learn by practicing straight through movements. DePorter and Hernacki (2001:110) describes that kinesthetic learning style is a combination of how to absorb, manage and process information to learn by moving, working and moving. Further, a number of the

prominent features of the individual who has the type of kinesthetic learning style is speaking slowly, touching people to get attention, standing close when talking to people, always oriented with physic and move around, memorize how to walk and see, using a finger as a pointer when reading, use a lot of gestures, cannot sit still for a long time, allowing his ugly, want to do everything, and love the game are busy.

While the visual learning style shows that children are more easily capture information in the learning process by using views, such as watching or learning through multimedia such as images. According to DePorter and Hernacki (2001:140), a person who has a visual learning style usually can develop ways auditory and kinesthetic by talking about various things and do with gestures. The characteristics that stand out from the people who have the type of learning style visual among others happy neatness and skill, if the talk tends to be faster, rather make careful planning for the long term, very carefully to the things that detail their nature, concerned with the appearance, either in dress and presentation, it is easier to remember what is seen, rather than heard, remembering something with the depiction of (association) visual, not easily distracted by the commotion while studying, readers quickly and diligently, prefer to read alone, and prefer art of music.

A greater learning styles influence on gross motor skills course is kinesthetic, because the child used to the motion, so it can be easy to develop gross motor skills. While the visual learning style, the child becomes more passive and less movement, so it will also affect gross motor development were to be slow. This research has also shown that children who have a kinesthetic learning style has gross motor skills are higher than children who have a visual learning style.

CONCLUSION

The research's findings concluded that there are significant differences in children's gross motor skill seen by three factors such as traditional games, learning motivation and learning styles. The gross motor skill in children who given traditional game of Boy-boyan, a high learning motivation and kinesthetic learning style is higher than children who did not give them at all. There is an an interaction effect between traditional game and learning style on the children gross motor skill, between learning motivation and learning style on the children gross motor skill. Thus, the

gross motor skills need to be getting more attention and enhancing through traditional games by considering the learning motivation and learning styles.

As the implications of the research results that traditional games will be gained attention both in the community and in the kindergarten school, so it will most often played as kids. The teachers and parents will see the importance of children's gross motor skills in helping other skills. So, the children's gross motor skills will not be sidelined in the process of early childhood education. The children's gross motor development will have a balanced proportion of learning in early childhood education.

Recommendations from this research is a kindergarten teacher in order to improve the children gross motor skills by applying traditional games of Boy-boyan and Dampu. The traditional games can be given within a week once or twice, which is expected in addition to improve the fitness of the child, also can develop gross motor skills of children. For parents to be at home actively introduce and encourage children to do the traditional game. When the game can be done on holidays or when they come home from school. The parents can choose traditional game that corresponds to the physical abilities of children in order to help to further optimize the increase in the gross motor skills. While policy makers and education managers need to provide training to teachers to have the ability to teach children traditional games that a lot of its kind in Indonesia. The teachers should also be encouraged to actively apply the traditional games to children in kindergartens as a means to improve gross motor skills.

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