

THE APPLICATION OF THE GAME METHODS AND INTEREST TO ELEMENTARY SCHOOL STUDENTS' LEARNING OUTCOMES OF FUNDAMENTAL MOVEMENT SKILLS IN RUNNING

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Abstract

This research aimed to determine the application of the game methods and interest to Elementary School students' learning outcomes of fundamental movement skills in running. The research samples consisted of 60 third-grade elementary school students. This research used treatment by level 2x2 research design with Tukey's test at the level of $\alpha = 0.05$. The results showed: 1) $Q_h=12.40$ and $Q_t=3.83$ in groups A_1 and A_2 . Based on these results, it can be concluded that there were differences in learning outcomes of fundamental movement skills in running between-group game methods and individual game methods. 2) The $F_h > F_t$ was $19.81 > 4.15$. In conclusion, there was an interaction between the game methods and learning interest on fundamental movement skills in running. 3) The result of the Tukey's test in groups A_1B_1 and A_2B_1 included $Q_h = 11.27$ and $Q_t = 2.99$. Based on these results, it can be concluded that the learning outcomes of fundamental movement skills in running with high interest taught using the group game method were better than the individual game method. 4) Furthermore, the $Q_h=1.32$ and $Q_t=2.99$. Based on these results, it could be concluded that the learning outcomes of low-interest fundamental movement skills in running taught using the group game method were not better than the individual game method.

Keywords: Game Methods; Interests; Learning Outcomes; Fundamental Movement Skills

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INTRODUCTION

Philosophy, cognitive psychology, social psychology, and scientific theory reviews agree that learning is a change process (Donà *et al.*, 2009). Students themselves make changes to their knowledge. Teachers' roles in learning include being a facilitator, a mediator, and a mentor. The teachers can only help change students' knowledge through their roles to achieve a perfect level of comprehension compared to previous knowledge. It can be concluded

that learning is an activity that is carried out intentionally or unintentionally by each individual, resulting in a change from not knowing to knowing. (Mustafa & Dwiyogo 2020) state that Physical Education is an educational process that utilizes physical activity and is planned systematically to improve individuals organically, neuromuscularly, perceptually, cognitively, socially, and emotionally. (Moerianto, Valianto, & Dewi 2020) suggest that in physical education, a practical approach to pedagogic practice is using some different teaching styles. It is further emphasized that Physical Education is an integral part of the overall education system, which focuses on developing physical fitness, movement skills, critical thinking skills, emotional stability, social skills, reasoning, and moral action through physical activities.

Physical education, sports, and health aim to enable students to have the following abilities: (1) Providing self-management skills to develop and recover physical fitness and a healthy lifestyle through various physical activities and selected sports; (2) Promoting better physical growth and psychological development; (3) Improving fundamental movement skills; (4) Laying the foundation of a solid moral character through internalizing the values in physical education, sports, and health; (5) Developing sportsmanship, honesty, discipline, responsibility, cooperation, confidence, and democracy; (6) Developing skills to maintain the safety of oneself, others, and the environment; and (7) Understanding the concept of physical activity and sports in a clean environment as information to achieve perfect physical growth, healthy lifestyle and fitness, skilled, and have a positive attitude. The learning process can be said to be effective if the behavior changes in students at least reach the optimal level. Its efficiency lies in the speed with which the subject matter is presented, even in a relatively short time. In other words, teachers should use an approach that is expected to provide meaningful experiences to students, both physically and psychologically, to increase the participation of all students' interest in movement so that the movement quality level is maximized.

Interest in Improving Learning Outcomes of Fundamental Movements in Running

(Maelani & Sukriadi 2020) define interest as a sense of liking something or a thing without anyone telling. (Moerianto *et al.* 2020) define interest as a tendency to pay attention and act towards the person, activity, or situation as the object of the interest accompanied by feelings of pleasure. Stimulating ability can encourage someone to pay attention to another person, an item, or activity (Marinšek *et al.*, 2019). Meanwhile, according to (Ismail, Jani, & Amer 2017), interest tends to feel best in a particular field and feel happy working in that field. (Marinšek *et al.* 2019) define interest as the awareness that a person's object, problem, or situation has something to do with him. It is a source of motivation that drives people to do what they want when free to choose. Throughout childhood, interest is a powerful source of motivation to learn.

Children who are interested in an activity, either game or work, will try harder to learn rather than children who are less interested or feel bored. Interest can grow well if learning is carried out excitingly and follows the students' development stages. Students interested in learning and having a positive attitude towards lessons will feel happy to learn certain subjects to achieve optimal learning outcomes. Therefore, to achieve optimal learning outcomes, in designing learning programs and learning activities for students, educators must pay attention to students' affective characteristics. Previous studies have shown that a person's mood or interests affect play performance (Ismail *et al.*, 2017) and the cognitive performance of a sample (Gil Madrona, Roldán Iniesta, Isabel García Espinosa, & Sánchez Sánchez, 2014).

Learning is a behavior change process due to experience and practice (Afandi, Chamalah & Wardani, 2013). Learning and its process are two closely related concepts. (Tandon *et al.* 2016) state that learning is a series of activities designed to allow the learning process to occur in students. (Tuzzin *et al.* 2015) define learning as a process of a relatively permanent change in individual behavior due to experience. The learning process will occur when students carry

out activities to learn something in their environment, through humans, animals, plants, and other objects as learning materials.

Interest is also included in psychological factors that significantly affect the learning process and results. (Mustafa & Dwiyoogo 2020) claim that high interest will lead to a severe and persistent effort and not easily give up in facing challenges. If a student desires to learn, he will quickly understand and remember it. One of the functions of interest in children's lives is a strong driver of energy and achievement. It is always influenced by the type and intensity of interest (Linus *et al.*, 2015). The absence of a person's interest in a lesson will cause learning difficulties. Learning with interest will encourage students to learn better than learning without interest. However, interest without reasonable effort makes learning challenging to succeed (Rosita, 2014). Based on some opinions above, it can be concluded that interest is one of the crucial factors in the teaching and learning process. Interest-based learning will motivate students to be more active and diligent in teaching and learning. The subject matter can be more easily absorbed and understood by students. Therefore, growing interest in learning in students is significant.

Game Methods to Improve Learning Outcomes of Fundamental Movement Skills

The game is very close to the world of children. Games in learning are a warm-up or refresher to build a dynamic, passionate, and enthusiastic learning atmosphere. For elementary school students, a game is an exciting and fun activity. Thus, the form of the game will be able to increase their passion and motivation to master the given technique. The play approach developed from dissatisfaction with the technical approaches applied to children (Wilczyńska *et al.*, 2021). Learning through two cycles games and sports can increase the elementary school students' fundamental movement skills in running (Anwar, 2018). (Nugrahastuti, Puspitaningtyas, Puspitasari, & Salimi 2012) define the game as a medium to enhance children's cognitive development. Games allow children to practice the competencies and skills needed relaxed and fun. (Hanief

& Sugito (2015) state that a game is a perfect setting for cognitive development. Children are particularly interested in the symbolic and imaginary aspects of a game, such as when they imitate a stick as a horse and ride a stick as if it is a horse.

Playing is an act that contains preoccupation and is carried out of their free will without coercion to get pleasure when doing these activities. (Hidayat 2017) states that a game is a contest between players who interact by following specific rules to achieve certain goals. Game is a prevalent type of sport for children. (Hanief & Sugito 2015) mention six types of games, namely: (1) introduction games, (2) individual games, (3) group games, (4) party games, (5) underwater games, and (6) scout games. The types of games observed in this research consisted of individual games and group games because these two games were easier to implement and did not cost too much. These games aimed to improve fundamental movement skills in running related to skills for the perpetrators. Besides that, both types of games are easier to use and apply to students.

The implementation of game activities is appropriate for lower grade elementary school students because it follows students' still playing characteristics. Currently, many research developed games to improve fundamental movement skills. One of them is with game consoles (Lubans *et al.*, 2010), simple motor skill games, or physical activity game programs (Donà *et al.*, 2009) (Wilczyńska *et al.*, 2021). Game-focused learning appears to promote the mastery of climate-oriented motivation to create children's motivation in physical education learning. (Lemos, Avigo, & Barela 2012) state it also enables learning outcomes improvement in schools (Ericsson & Karlsson, 2014). Game-focused learning appears to promote the mastery of climate-oriented motivation to create children's motivation in physical education learning and improve school learning outcomes (Ericsson & Karlsson, 2014).

METHOD

The research sampling technique was random cluster sampling. As stated by (Sugiyono 2010), "In random cluster sampling, the chosen one is not an individual but a group or area which is then called a cluster." The sampling was done randomly. Each class leader took their lottery paper, then grouped the samples based on the lottery results. The samples consisted of 60 students. Thirty students in Class III-A and 30 students in Class III-B. Then, both classes were given the interest test. After being ranked and sorted from most significant to most minor, the upper and lower-interest groups were taken to be 27% of the upper and lower groups in class III-A (30 people). The 27% of the upper group consisted of eight higher-interest people and eight lower-interest people. Then, class III-B consisted of 30 people; 27% of the upper group consisted of eight lower-interest people and eight higher-interest people.

The research instruments were (1) Interest attitude assessment questionnaire; (2) Learning Outcomes Test for fundamental movement skills in running. The data of students' interest was obtained by non-test, which was developed from the indicators of interest in an attitude scale test. The items on this scale were developed with positive and negative statements. Furthermore, the research instrument, namely the results of the learning outcomes test, was used to measure mastery and ability. The data analysis technique in this research was the analysis of variance (ANOVA) technique. Hypothesis testing was carried out at a significance level of 5%. In the ANOVA test, there was an interaction between the Game Method and the learning interest to the Learning Outcomes of fundamental movement skills in running, then proceed with further testing. If the number of samples in each cell was the same (n was the same), the further test was carried out with Tukey's test. Meanwhile, if the number of samples in the cells was different (n was different), the Scheffe test was used for further testing. As a test of the analysis requirements, a normality test was carried out using the Liliefors

test. After the normality test, the homogeneity test was carried out using the F-test, Barlett's test, and hypothesis testing.

RESULT AND DISCUSSION

Results

The research results were presented with a description of the data, testing requirements analysis, and testing hypotheses. In this research, there were three variables. The first was the dependent variable, namely learning fundamental movement skills. Second, the independent variable was the group game method and the individual game method, and the moderator variable was learning interest (higher and lower).

After following a series of learning processes that had been programmed by dividing into two groups, namely group of students taught by the group game method and group of students taught by individual game method, the results of learning fundamental movement skills in the running were obtained in the form of scores used and analyzed from the average the results of the evaluation of the three evaluators. In each group, some students had higher interest and lower interest. The level of student interest was measured by giving a test.

Table 1. Factorial ANOVA 2x2

Method	Group Game Method (A1)	Individual Game Method (A2)
Interest		
High (B1)	$\sum x = 560$ $\sum x^2 = 39270$ $\bar{x} = 70.00$ $SD = 3.162$ $N = 8$	$\sum x = 380$ $\sum x^2 = 18952$ $\bar{x} = 47.50$ $SD = 11.352$ $n = 8$
Low (B2)	$\sum x = 513$ $\sum x^2 = 33413$ $\bar{x} = 64.13$ $SD = 8.593$ $n = 8$	$\sum x = 534$ $\sum x^2 = 35940$ $\bar{x} = 66.75$ $SD = 6.497$ $N = 8$
Total	$\sum x = 1073$ $\sum x^2 = 72683$ $\bar{x} = 67.062$ $SD = 6.951$ $n = 16$	$\sum x = 914$ $\sum x^2 = 54892$ $\bar{x} = 57.125$ $SD = 13.366$ $N = 16$

Hypothesis Testing

The Hypothesis Testing in this research was conducted using the two-way technical analysis of variance (ANOVA). See the appendix. Then, to answer, the test was explained as follows:

Group Game Method was better than Individual Game Method in Learning Fundamental Movement Skills in Running.

Based on the results of the analysis of variance in the appendix, at the level of $\alpha = 0.05$, $F_h > F_t$ was obtained, which was $12.40 > 4.15$. Therefore, it can be concluded that there were differences in the Learning Outcomes of Fundamental Movement Skills in Running between the Draw Group Game Method and the Individual Game Method

Then, proceed with the Tukey's test in groups A_1 and A_2 , where $Q_h = 7.04$ and $Q_t = 3.83$. Based on these results, it can be concluded that there were learning outcomes for Fundamental Movement Skills in Running between the Draw Group Game Method and the Individual Game Method.

There was also an interaction between learning strategies and students' interest in learning fundamental movement skills in running

Based on the results of the analysis of variance, at a level of $\alpha = 0.05$, $F_h > F_1$ was obtained, namely $19.81 > 4.15$. Therefore, the overall conclusion on the learning outcomes of Fundamental Movement Skills in Running can be drawn.

The Group Game Method was better than the Individual Game Method on Learning Outcomes of Fundamental Movement Skills in Running with Higher Interest

Then, this research was continued with the Tukey's test in groups A_1B_1 and A_2B_1 with $Q_h = 11.27$ and $Q_t = 2.99$. Based on these results, it can be concluded that the learning outcomes of fundamental movement skills in running with higher motor skills taught using the group game method were drawn better than the individual game method strategy.

The Individual Game Method was better than The Group Game Method on Learning Outcomes for Fundamental Movement Skills in Running with Lower Interest

This research then proceeded with the Tukey's test in groups A_1B_1 and A_2B_1 with $Q_h = 1.32$ and $Q_t = 2.99$. Based on these results, it can be concluded that the learning outcomes of Fundamental Movement Skills in Running with lower motor skills taught using the Drawn Individual Game Method were better than the Group Game Method.

Discussion

This research was in line with the theory by (Bahagia (2012), which states that running is a body movement where both feet are present while floating in the air (both feet off the ground). It means running is different from walking, constantly in contact with the ground. Running is the frequency of accelerated steps. Thus, there is a tendency for the body to float when running, meaning that both feet do not touch the ground. At least one foot still touches the ground (Bahagia, 2012). The research results related to research variables included individual game methods, fundamental movement skills in running, and students' interests. The relevant research results will be presented as follows.

Based on the discussion, it was known that there were differences in the learning outcomes of fundamental movement skills in running between the group game method and the individual game method. In implementing mastery of fundamental movement skills, the benefits of running were significant. Thus, fundamental movement skills are required to be done well.

The Interaction between Learning Strategies and Interest in Learning Outcomes of Fundamental Movement Skills in Running

The second hypothesis testing showed an interaction between learning methods and interest in learning outcomes for Fundamental Movement Skills in Running. Therefore, the overall conclusion was an interaction between learning strategies and interest in the learning outcomes of Fundamental Movement Skills in Running. The game method is an activity that can cause fun for those who play it. In learning, games are not always interpreted as usual games, but games designed to help students understand learning, such as allowing students to manipulate concrete objects related to learning.

Research related to fundamental movement skills in running was conducted by (Heijnen et al. 2013). The data collection methods in this research included observation, questionnaires, and performance tests. The results showed that students were more enthusiastic, active, not lazy, and felt happy. The improvement was indicated by increased motivation, cooperation, and the development of students' sprint movements in learning. The results for the 40-meter running performance test showed that the average value of the first cycle students was 83.2 or 90% of students who achieved the *Minimum Mastery Criterion* (KKM) and increased in the second cycle to 84.7 or 95% of the students who achieved the Minimum Mastery Criterion.

Interactive games can be interpreted as games carried out by active interaction between class members who learn, in line with what has been stated by (Moerianto et al. 2020) that playing activities is appropriate to develop children's fundamental movement skills in elementary school because children's world is the world of play. A group game is where each participant must be a part of a team. Group games prioritize cohesiveness and cooperation between team members or groups.

In addition to the advantages above, group games also have several weaknesses, including: (1) If students enter groups that they do not like, there will be divisions, so there is no cohesiveness; (2) A load of strength depends on the cohesiveness of the group; (3) If one student makes a mistake, all members of the group will also be punished.

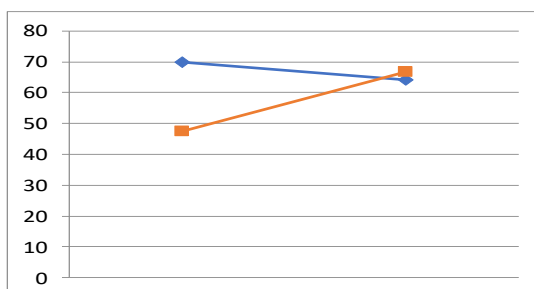


Figure 1. Interaction Diagram of This Research

The Group Game Method Was Better than the Individual Game Method strategy on Learning Outcomes of Higher-Interest Fundamental Movement Skills in Running

The results of proving the third hypothesis showed a significant difference between students who had higher interest taught by using the group game method and the individual game method on the learning outcomes of fundamental movement skills in running. Based on these findings, it can be concluded that the learning outcomes of higher-interest running fundamental movement skills taught using the group game method were better than the individual game method.

The game method could affect student learning outcomes mastery of fundamental movement skills in running. The learning interest also influenced it. Learning interest is one of the drivers for individuals to carry out the learning process given by the teacher to students. If a student has a high interest in learning, he tends to complete learning tasks well, and students with a high interest in learning tend to attribute their success to their skills and attribute failure to a lack of effort. Based on these motives, students will be more active in learning and thus make it easier to master the fundamental movement skills in running.

The Individual Game Method was better than the Group Game Method on Learning Outcomes of Lower-Interest Fundamental Movement Skills in Running.

The individual game method has advantages and disadvantages. An individual game is a type of game that highlights individual activities. Students were given the freedom to do the movement without help from friends or other people. Thus, individual games had some advantages, including (1) improving fundamental movement skills from oneself, not from other's assistance; (2) improving students' independence; (3) children's physical condition is better because there are more opportunities to repeat activities; (4) the occurrence of more tough and balanced competition because of one player against another player.

Besides the advantages above, the individual game also has weaknesses, namely; (1) students lack enthusiasm in playing games; (2) the burden of the task that each individual must bear is sometimes felt burdensome; (3) the increase in the results of individual games on the level of fundamental movement skills is felt to be uneven depending on the individual.

CONCLUSION

The conclusions of this research were in line with the research objective and problems formulated and based on the results of data analysis carried out, namely Analysis of Variance and Tukey's Test. This research produced four conclusion indicators including:

1. The group game method was better than the individual game method on the learning outcomes of fundamental movement skills in running.
2. There was an interaction between the playing method and students' interest in learning fundamental movement skills in running.
3. The group game method was better than the individual game method for learning outcomes of students with a higher interest in fundamental movement skills in running.
4. The individual game method was better than the group game method for learning outcomes for students with lower interest in fundamental movement skills in running

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