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The Influence of Jumping and Throwing Park Games on Students' Basic Motor Skills

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Abstract

This study aims to determine the effect of jumping and throwing park games on improving basic motor skills of junior high school students. The research method used is an experiment with a pretest-posttest control group design. The sample consisted of two classes, each consisting of 30 students, divided into experimental and control groups. The instrument used refers to the Test of Gross Motor Development (TGMD-2) to measure jumping, throwing, and balance abilities. The results of the analysis showed that there was a significant increase in the post-test results of the experimental group compared to the control group ($p = 0.000$). Jumping and throwing park games have proven effective in integrating locomotor and manipulative movements through a fun play approach, thereby increasing students' motivation and active participation in physical education learning. These findings indicate that learning media designed according to the characteristics of student development can make a real contribution to improving motor skills. Therefore, the use of this media is recommended as an alternative learning strategy that is educational and fun in the school environment.

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INTRODUCTION

Basic movement skills related to a student's self are an important aspect that must be maintained. It is very important to ensure that students have relevant physical activity. According to (Amalia et al., 2023)Fundamental movement skills are used in physical education to build more complex sports skills. According to (Kathleen M. Haywood, 2019),In physical education, students can improve their academic performance and increase concentration (Hillman et al., 2008) revealed that student involvement in physical activity is positively related to cognitive function and learning outcomes. Therefore, physical education should not be viewed as a complementary subject, but as an integral part of an education system that is oriented towards developing superior human resources.

Physical education is an integral part of education which aims to develop physical, motoric aspects and social values in everyday life (Siedentop, 2009). One of the important components in physical education is learning basic movement skills, which include locomotor, non-locomotor, and manipulative. These skills will be the basis for more complex movement abilities in the future (Yudaparmita, 2022)

Good basic movement skills can improve students' coordination, balance, concentration, and confidence in moving (Hardy et al., 2012). Lack of basic movement skills can hinder physical activity and increase the risk of a sedentary lifestyle. Basic movement skills are an important element in students' motor development. These skills include locomotor (walking, running, jumping), non-locomotor (bending, twisting, pushing), and manipulative (throwing, catching, dribbling) movements.

Basic movement skills have a major influence on students' physical readiness, both in daily life and in sports (Jacqueline D Goodway, John C Ozmun, 2019). Studies show that game-based learning methods and diverse motor activities are more effective than traditional approaches in improving students' motor skills (Logan et al., 2015). One effective approach to improving basic movement skills is through the integration of games involving jumping and throwing activities.

The jumping and throwing garden game integrates various movement elements such as jumping, throwing, and catching, all of which contribute to improving students' motor skills. Research conducted (Lubans et al., 2016) also shows that games involving manipulative skills such as throwing and catching can improve children's hand-eye coordination and balance.

Based on research conducted by (Dwi Ariana & Dicky Hastjarjo, 2018) Many students have difficulty in mastering basic movement skills due to the lack of variation in the learning methods used by teachers. In addition, children tend to be less active in participating in physical education lessons because the methods are monotonous and less interesting. In addition, teachers' awareness in creating a pleasant learning atmosphere is still not optimal, so students feel less motivated to participate actively.

Based on the results of the researcher's observations in the field, most physical education teachers tend to use monotonous and less varied learning methods, such as lining up or giving instructions that are too wordy. This monotonous learning method quickly makes students bored and cannot attract students' interest. As a result, students are not motivated to participate actively in learning. They also find it difficult to understand and master the basic movement skills taught. These less enjoyable and interactive activities make students feel stressed and unmotivated to move. This has an impact on the lack of student participation in learning and the development of their basic movement skills which are hampered.

To overcome these problems, innovation is needed in physical education learning methods that are more effective and enjoyable for students. One promising approach is through the use of fun and varied games. Games not only make learning more interesting, but can also motivate students to move and actively participate in physical activities. Jumping and throwing park games are one type of physical activity that is intended to improve students' basic motor skills in an interesting and interactive way.

The jumping park game is designed to train locomotor skills such as long jump, rope jump, and hurdle jump. This activity provides a variety of stimuli for body coordination, muscle strength, and balance. Each post in the game is equipped with different jumping challenges, which encourage children to move with the right technique and develop their motor skills gradually (Pratama, 2022; Setiawan, 2020).

Similarly, the park game of throwing focuses on manipulative movements such as throwing a ball at a target, catching, and controlling objects. This activity trains accuracy, hand-eye coordination, and reaction speed, which are important parts of gross motor skills. This game is designed to combine physical exercise with fun and motivating activities (Suharto, 2020; Wibo-

wo, 2020).

In addition to physical benefits, the jumping and throwing park game also has benefits for developing students' social and emotional aspects. Through interaction with peers in the game, students learn to work together, communicate, and appreciate differences. The game can also help students develop self-confidence, sportsmanship, and the ability to overcome emotions and challenges. Thus, the jumping and throwing park game is not only useful for improving basic motor skills, but also for developing other aspects that are important for the overall development of children.

Previous research using games to improve basic motor skills has shown positive results. According to (Wulansari, 2019) shows an increase in teacher and student activity and learning completion through traditional sports games. According to (Inayati, 2022) also found an increase in basic skills in students who used a play approach. However, research that specifically examines jumping and throwing garden games is still limited.

Based on the explanation above, it can be concluded that basic motor skills have a very important role in children's development. However, problems in learning basic motor skills are still often found. Therefore, this study aims to analyze the effect of jumping and throwing park games on students' basic motor skills.In the context of students' basic motor skills, there is a need for more innovative and relevant approaches to students' interests to increase their active participation in sports. Although physical games are known to be effective in improving motor skills, studies examining the use of specific games such as jumping and throwing parks in the context of students are still very limited. Therefore, this study attempts to fill this gap by evaluating the effect of jumping and throwing park games on students' basic motor skills.This study aims to examine whether there is an increase in the application of jumping and throwing parks on students' basic motor skills.

The novelty of this study lies in the structured integration of jumping and throwing park games as a simultaneous intervention model, which combines both locomotor and manipulative elements within a single learning medium. Previous studies have only examined these components separately or in general play-based approaches. This study offers a new perspective by evaluating their combined effectiveness in improving students' motor skills through a developmentally appropriate, engaging, and educational format tailored for junior high school physical education.

METHODS

This study used an experimental method with a pretest-posttest control group design. This design involved two groups: an experimental group that received treatment in the form of a jumping and throwing park game, and a control group that did not receive treatment. The study was conducted on grade VII students at one of the State Junior High Schools in Bandung City. The sample was selected using a purposive sampling technique with two classes that had similar characteristics, each consisting of 30 students. The independent variable in this study was the jumping and throwing park game, while the dependent variable was students' basic motor skills, which included locomotor, non-locomotor, and manipulative movements.

The research instrument was in the form of a basic motor skills test referring to the Test of Gross Motor Development (TGMD-2) by (Ulrich, 2000), which assesses jumping, balance, and throwing abilities. The assessment was conducted through pretest and posttest, and supported by observation of the learning process. Data analysis techniques were conducted quantitatively through descriptive statistics, normality and homogeneity tests, and paired sample t-tests using SPSS 25 to determine significant differences between before and after treatment in each group (Fadluloh et al., 2024).

RESULTS AND DISCUSSION

Table 1. Descriptive Statistics

Class	Experimental Class PreTest	PreTest Control Class	Experimental Class PostTest	PostTest Control Class
Number of students	30	30	30	30
average	11.03	9.87	14.8	12.27
Median	11	10	14.5	12
Mode	12	9	14	13
SD	1.65	1.79	2.32	2.21
Max Value	7	13	20	17
Min Value	14	6	10	8

This study aims to determine the effect of jumping and throwing park games on students' basic motor skills. Descriptive statistical analysis is used to describe the pre-test and post-test data in the experimental and control classes. The following is a description of the research results based on the data that has been obtained. The number of students who took the pre-test in the experimental class was 30 people. The average value ob-

tained was 11.03 with a median value of 11 and a mode of 12. The maximum value achieved by students was 14, while the minimum value was 7. The distribution of data is indicated by a standard deviation of 1.65, which shows that the variation in participant values is still quite low. In the control class, the number of students was also 30 people. The average value of the pre-test results was 9.87 with a median value of 10 and a mode of 9. The maximum value achieved was 13, and the minimum value was 6. The standard deviation of 1.79 shows a level of data variation that is almost equivalent to the experimental class. After being given treatment in the form of jumping and throwing park games, the average post-test value of the experimental class increased to 14.8. The median value is 14.5, and the mode is 14. The maximum value reaches 20 and the minimum value is 10. The standard deviation increases to 2.32, indicating a wider variation in results than before, possibly due to differences in the level of success of individuals in responding to the treatment. In the control class, which did not receive any special treatment, the average post-test score was 12.27, with a median of 12 and a mode of 13. The maximum score obtained was 17, and the minimum score was 8, with a standard deviation of 2.21.

Table 2. Normality Test

Group	Kolmogorov-Smirnov Statistics	df	Sig.	Shapiro-Wilk Statistics	df	Sig.	Information
Post Test Experiment	0.125	30	0.200*	0.970	30	0.532	Normal
Post Test Control	0.117	30	0.200*	0.975	30	0.683	Normal
Pre Test Experiment	0.144	30	0.136	0.953	30	0.201	Normal
Pre Test Control	0.150	30	0.102	0.947	30	0.144	Normal

Based on the results **Table 2** of the Shapiro-Wilk test (used because the number of samples <50), all data groups have a significance value (Sig.) above 0.05. This means that the four data groups (pre-test and post-test of the experimental and control classes) are normally distributed. Therefore, the data in this study meets the requirements for further testing.

Table 3. Homogeneity Test

Group	Levene Statistics	df1	df2	Sig. (p-value)
Pre Test	1.242	1	58	0.270
Post Test	0.211	1	58	0.648

Based on the **Table 3** above, it is known that the significance value (p-value) for the pre-test data is 0.270 and for the post-test is 0.648. Both values are greater than $\alpha = 0.05$, so it can be concluded that the variance of both groups is homogeneous both at the pre-test and post-test. Thus, the data meets the assumption of homogeneity, and is worthy of further analysis using the t-test to see the difference in the average between groups.

The t-test results show that the t value = 4.874 with a significance value (p) = 0.000. Because the p value <0.05, it can be concluded that there is a significant difference between the pre-test and post-test results in the experimental class. This shows that there is a significant increase in learning outcomes after being given treatment (for example the use of certain learning methods) in the experimental class. The t-test results show that the t value = 2.635 with a significance value (p) = 0.011. This value is also smaller than 0.05, so it can be concluded that there is a significant difference between the pre-test and post-test results in the control class. However, this difference is not as large as in the experimental class, which indicates that the increase in learning outcomes in the control class may have occurred naturally or due to other factors outside the treatment.

Improving students' motor skills is one of the main focuses in the physical education process, especially at the Junior High School level. In this study, the treatment given was in the form of using a throwing and jumping park media designed to stimulate students' gross motor skills. This media presents fun and challenging physical activities, so it is expected to be able to increase students' active participation and motivation in participating in learning. Based on the pre-test results, there was an initial difference between the experimental group and the control group (p = 0.0189), which indicates that both groups had basic abilities that were not completely balanced before the treatment was given. However, the main focus in this study was the significant increase that occurred after the experimental group was given treatment, which indicated that the use of a throwing and jumping park had a positive effect on students' basic motor skills. This finding is in line with the opinion (Sujarwo & Sujarwo, 2016) which states that children's motor skills can be developed optimally if the media and learning methods used are interesting, contextual, and appropriate to the characteristics of the child's development.

After the treatment in the form of throwing and jumping garden games was applied, the post-test results in the experimental class showed a significant increase compared to the control class

(p = 0.0007). This increase indicates that learning activities that combine elements of locomotor movement (such as jumping) and manipulative movement (such as throwing) systematically are able to strengthen students' basic motor skills as a whole. At the junior high school level, the development of motor skills is not only important for students' readiness to participate in various sports, but also plays a role in supporting their cognitive, affective, and social development.

Throwing and jumping activities packaged in a game atmosphere have been proven to increase students' active involvement, motivate them to move more, and challenge their coordination and body control abilities. This is in line with the opinion (Gallahue & Ozmun, 2006), which emphasizes that basic motor skills are the main foundation for the development of children's and adolescents' movement, and these skills can be effectively improved through physical activities designed according to developmental stages and age characteristics.

At junior high school age, students are in a transitional phase of development towards adolescence, so they need movement stimulation that not only demands physical strength, but also strategic skills, decision-making, and teamwork. Games such as throwing and jumping parks are an alternative learning media that are fun and meaningful, because they are able to develop functional movement skills while maintaining the recreational aspect of the learning process. Thus, this intervention not only has an impact on motor skill achievement, but also strengthens student involvement in physical education, sports and health learning in general.

The t-test conducted between the pre-test and post-test results in the experimental class showed a very significant increase statistically (p = 0.000). These results provide strong evidence that the use of jumping and throwing park media in the physical education learning process can provide a real contribution to improving the motor skills of junior high school students. This media not only creates a fun learning atmosphere and stimulates students' enthusiasm, but also effectively involves them in physical activities that are rich in elements of coordination, balance, agility, and muscle strength. Activities such as jumping from one point to another, throwing objects at targets, or maintaining balance when landing are part of basic motor skills that are very important in the motor development of children aged towards adolescence/teenagers.

This finding is in line with the opinion(Syarifuddin, 2018), which emphasizes that games as a strategy in physical education learning can increase students' active participation and improve their overall basic motor skills. In this context, jumping and throwing parks can be categorized as a form of educational game that is complex motoric, where students are indirectly involved in structured and meaningful physical exercises. This supports the learning through play approach, which has been widely supported by experts as an effective method in junior high school education.

Further, (Gallahue & Ozmun, 2006) in the theory of motor development states that effective movement learning is learning that provides opportunities for students to actively move in a safe, challenging environment that supports movement exploration. The jumping and throwing park reflects this principle, because this media encourages children to actively explore various basic movement patterns in a fun and non-intimidating atmosphere. With the diversity of physical activities in this media, students can develop motor skill components from both locomotor, non-locomotor, and manipulative aspects.

In addition, the active learning approach applied through this media is also in line with the experiential learning principles put forward (Kolb, 1984), namely that children will learn more effectively through direct experience and reflection on the actions they take. Through the medium of the throwing and jumping park, students not only gain theoretical knowledge, but also practice and experience directly the learning process related to their physical abilities and body coordination. This creates a comprehensive and meaningful learning experience.

Meanwhile, in the control class using conventional learning methods without the help of special media, there was also an increase in students' motor skills, but not as large as the increase in the experimental class (p = 0.011). These results indicate that standard physical learning methods still have an impact on students' motor development, but their effectiveness is relatively lower compared to the use of innovative learning media. This may be because the conventional approach tends to be monotonous, does not actively involve students, and is not fully able to answer the movement needs and learning interests of students individually.

This finding is reinforced by research results (Derri et al., 2010), which states that learning media that systematically integrate complex motor activities are proven to be more effective in improving children's physical abilities and motor skills compared to traditional learning methods

that are one-way and less interactive. In addition, according to (Chen et al., 2014), interesting, fun, and physically challenging learning media can increase students' intrinsic motivation, strengthen their involvement in learning activities, and significantly improve learning outcomes in psychomotor aspects.

Thus, it can be concluded that the media of the jumping and throwing park not only functions as a learning aid, but also as a strategic means to create an active, fun, and effective learning environment in developing students' motor skills. The implementation of learning media like this is highly recommended in the physical education curriculum, especially at the elementary and junior high school levels, in order to support students' physical and motor development optimally and encourage more meaningful learning that is oriented towards real experiences.

CONCLUSION

The results of the study showed that the use of jumping and throwing park media had a significant positive impact on improving the motor skills of junior high school students. This media effectively integrates elements of locomotor, manipulative, balance, and body coordination through a fun play approach. The application of physical activity-based learning like this has been proven to increase student involvement and motivation in physical education learning. Therefore, it is recommended that physical education, sports and health teachers integrate this media into learning routinely with modifications according to student needs. Schools are expected to support the provision of simple facilities that support these activities, while curriculum developers need to consider an active and experience-based approach in designing physical education, sports and health learning. Further research is recommended with a wider scope and exploration of other game media to support innovations in physical education learning.

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