

The effect of the teaching game approach in the gymnastics learning process to improve roll forward

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Abstract

This study aims to analyze the effectiveness of the gymnastic learning model, which makes students more active during learning to improve students rolling skills. This type of research is an experiment with a pre and post-test design. 34 people with an average age of 15 years, consisting of 16 men and 18 women, participated in this study. Subjects were divided into two groups the experimental and control groups. They were taking research subjects using a purposive sampling technique. The control group carried out an independent study according to the instructions from the teacher, while the experimental group was treated with a play learning model according to the treatment program that had been made in each lesson. The forward roll skill test instrument uses a forward roll skill test sheet which contains a forward roll assessment indicator, which consists of 10 assessment indicators, starting from the initial phase, the primary phase, and the final phase for the forward roll movement. Data analysis was performed using the SPSS application with the Paired t-test method. This study's results reported a significant difference in the experimental group ($p < 0.05$) compared to the control group. Each group has an average difference so that the learning model applied can improve forward-rolling skills in gymnastic materials.

Keywords: Teaching game approaches, gymnastics, forward roll skill, exercise.

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INTRODUCTION

Physical education prioritizes physical activity to produce an overall increase in students' physical, mental, and emotional activities (Silva et al.,

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2019). Globalization is indeed seen as bringing many benefits to physical education, but as the complex learning system develops, there are negative effects (Kobrin, 2020). The use of smartphones by students impacts a lack of physical activity because most of their time is used monitoring the monitor screens of their smartphones (Koumpouros & Kafazis, 2019). Games previously played with various physical movements are now transformed into digital games that can be played for a long time in a sitting or static position (Pill et al., 2017).

In most cases, several studies report that a lack of physical activity is the main trigger for obesity (Morgan & Partridge, 2020; Pojednic et al., 2022). In this regard, the incidence of obesity in adolescents aged 12-19 around the world is around 20.6% (Sanyaolu et al., 2019). Apart from these problems, gymnastics is a compulsory subject in junior high schools. The schedule for physical education subjects at school is only 1 time in 1 week (Grao-Cruces, Velásquez-Romero and Rodriguez-Rodríguez, 2020). Limited time intensity requires an effective, systematic, and measurable design in one-time face-to-face learning in physical education subjects to achieve learning outcomes as expected. The current phenomenon is that students' interest in taking part in physical education lessons in gymnastics material is still lacking, this can be seen from the lack of activeness of students in participating in gymnastic lessons and the lack of attention to the teacher so that this has an impact on learning outcomes on floor gymnastics material which is not good (Aniszewski & Cely, 2021).

Alternative solutions need to be sought to overcome these problems. Participating in gymnastics lessons will make students actively move so that fat and glucose will be burned in the students' bodies, which will then improve physical fitness and prevent obesity (Palmizal et al., 2020; Vernetta, Peláez-Barrios and López-Bedoya, 2020). Gymnastics can be interpreted as any form of physical learning arranged systematically by involving selected and planned movements to achieve certain goals (Shi et al., 2020). Previous research reported that games could help develop personality and emotions because children try to play

various roles, express feelings, express themselves in a non-threatening atmosphere, and pay attention to themselves in the role of others (Jones *et al.*, 2014). In addition, our previous research reported that gymnastics could improve motor skills in early childhood (Handayani *et al.*, 2022). Until now, it has not been reported that the playing method approach in the learning process of gymnastics can improve rolling skills.

Based on the results of the previous description, this study aims to analyze the effectiveness of the game approach model in the gymnastics learning process. In the game approach model, the treatment that will be given to the subjects of this study makes students more active during learning, so the treatment given is expected to improve students' rolling skills in the future.

METHOD

This research hopes to get good results and match the expectations of researchers, so the research method implemented in this study uses experimental methods. The use of experimental research methods in this study is experimental activities by conducting pre-test (before research treatment) and post-test (after research treatment). In this study, the experimental method used is the method that is considered the most appropriate to investigate causal relationships. Experimental research is a technique to find a causal relationship between two factors deliberately given by researchers by reducing or excluding other confounding factors. 34 people with an average age of 15 years, consisting of 16 men and 18 women, participated in this study. The inclusion criteria for this study were junior high school students, and the exclusion criteria were subjects trained in sports. Subjects were divided into two groups the experimental and control groups. They are taking research subjects using a purposive sampling technique. The control group carried out an independent study according to the instructions from the teacher.

In contrast, the experimental group was treated with a play learning model according to the treatment program made in each lesson. The

forward roll skill test instrument uses a forward roll skill test sheet which contains a forward roll assessment indicator, which consists of 10 assessment indicators, starting from the initial phase, the main phase, and the final phase for the forward roll movement. Each student has 3 chances to do a forward roll test. After the data was obtained, data analysis was carried out using the SPSS application. First, descriptive analysis is to find out the mean, standard deviation, and standard error. Then a different test was carried out using the Paired t-test method.

RESULT

Table 1. Data on the characteristics of research subjects

Data	Gender	N	$\bar{x}\pm SD$
Age (y)	Male	16	15 \pm 1,06
	Female	18	15 \pm 0,74
Height (cm)	Male	16	145,89 \pm 1,81
	Female	18	146,69 \pm 2,11
Weight (kg)	Male	16	42.00 \pm 2.20
	Female	18	44.62 \pm 2.68

The data analysis used was a descriptive test to find out the mean and standard deviation. The table explains that the average age of the research subjects was 15 years, the average height ranged from 145-145 cm, and the average weight ranged from 42-44 cm.

Based on the analysis results, there were significant differences in treatment with the provision of playing methods between the experimental and control groups to improve their forward roll skills. An overview of the research results can be seen in Table 2 below.

Table 2. Pre-test and post-test results experiments and controls

Group	Test	N	Mean	Std. Deviation	Std. Error	
Improve their forward roll skills	Experiments	PreTest	34	33,65	1,433	.246
	Controls		34	32,32	.806	.138
	Experiments	PostTest	34	38,71	1,947	.334
	Controls		34	32,85	.925	.159

In Table 2, according to the implementation of the pretest-postest group design research design, by explaining the test results after being treated, it can be seen that the pre-test scores in the experimental and

control groups have differences in improving their forward roll skills, namely with the average on the pre-test in the experimental group of 33.65 while in the control group only 32.32. The post-test scores in the experimental and control groups had differences in improving their forward roll skills, with the average post-test in the experimental group of 38.71; in the control group, it was only 32.85. In the experimental group, by looking at the average that had a large increase in the difference in improving their forward roll skills, with the average in the pre-test in the experimental group being 33.65, while in the post-test, the experimental group was only 38.71. The results of this study can also be interpreted in a graph for the experimental and control pre-test and post-test groups looking at the differences in improving their forward roll skills and the control group as follows.

Furthermore, the results of the rolling forward analysis between the pre-test and post-test in each group are presented in Figure 1.

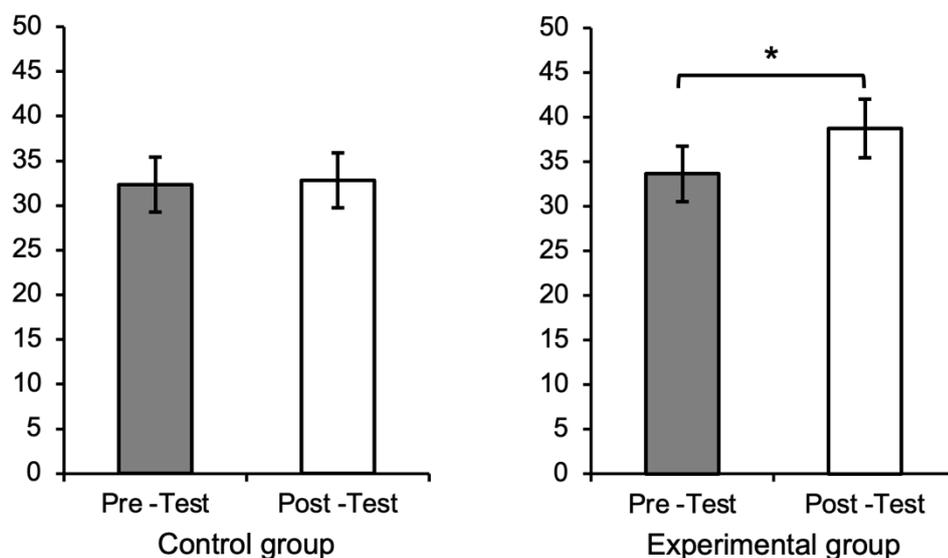


Figure 1. The experimental group with the playing method improved their forward roll skills significantly (* $p < 0.05$) compared to the control group. Data are presented as Mean \pm Std Error. P values were obtained using paired t-tests to compare the pre-test and post-test of each group.

Figure 1 explains a significant increase in forward roll skill in the experimental group that was treated with the teaching game and no significant increase in the control group.

DISCUSSION

This study aims to see the contribution of treatment to providing playing methods to improve their forward roll skills. The research design used in this study was one pretest-posttest design. The forward roll skill test instrument uses a forward roll skill test sheet which contains a forward roll assessment indicator, which consists of 10 assessment indicators, starting from the initial phase, the main phase, and the final phase for the forward roll movement.

The results of this study report that different teaching approaches will contribute to improving students' forward roll skills, with the exercise program given repeatedly and regularly. It can be seen that the experimental group with the Play Learning Model in the art learning process was able to significantly improve their forward roll ability ($p < 0.05$) compared to the control group. The play learning model develops the principle of the game by stimulating the desire to carry out a physical activity that is systematic and purposeful, and enjoyable for students. A study reports that using the play method will make students move happily and without burden, play can also support learning outcomes, especially in the guidance of aged adults (Letourneau & Sobel, 2020). Using the play method will make students move happily and without burden. Games can motivate students to continue physical education lessons (Jones et al., 2014). Compared to all other parts and roles involved in learning, the student motivation level has a higher level of motivation (Ginanjar et al., 2021). At the same time, the learning model applied by physical education teachers still needs to be student-centered, so many do not carry out movement activities, or the frequency of their movements is smaller (Pill et al., 2017). Student-centered teachers remain pedagogical gatekeepers (Pill et al., 2017). Therefore, not all students participate fully during learning.

The gymnastics learning model is applied with a playful approach to making it easier for students to practice each important skill and learn it gradually. Each game has different rules so that each encounter will have

a more complex level resembling the real rules. Thus learning with a varied game approach will be able to achieve the planned learning objectives and can increase physical activity during physical education learning. Innovative technical means it is possible to develop athletes and accelerate their improvement in the necessary physical qualities (Lochman et al., 2021).

The concept of the game as a teacher emphasizes the principle of modification with adaptation to involve players of other skills (Jääskä & Aaltonen, 2022). Students have physically moderately significant levels of educational activity, friendly approach, and friendship-avoidance goals (Jääskä & Aaltonen, 2022). Skills/game learning and public health goals are two sides of the same coin, and needs are not mutually exclusive when a teacher employs a play-centered approach (Harvey et al., 2015). Stability and emotional control can be developed by playing, which is very important for mental balance.

This method of playing continues to be applied in learning to improve their forward roll skills so that it is also the best result in achieving completeness in the learning process. The playing method used to improve their forward roll skills, the method used is very influential, because by providing a play method, children will be very enthusiastic in following learning. Methods with a playful approach will be able to improve and develop various aspects of both cognitive, affective, and psychomotor students. The provision of methods given with playing methods that are very popular and considered to attract children's attention to continue to do it, namely playing methods that can make players active. The reason why this method can be very interesting in improving children's learning outcomes is that in this method, there is an element of a combination of games and activities they like.

CONCLUSION

The approach of the playing method in the gymnastics learning process can improve forward roll skills. According to the results of the

study, the application of the play method makes changes to the activeness of students in participating in learning. So that it impacts the results of this study, concluding that the approach method of playing in the gymnastics learning process can increase student activity in learning physical education. Interesting games, besides that this study shows active student involvement during learning can also show the quality of a teacher's teaching. We hope that future research will analyze play approaches in improving students' motor skills, particularly on gymnastics material. So that teachers can enrich learning methods to improve movement skills in physical education.

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