



# Increasing students' enthusiasm and learning outcomes in Physical Education Learning through the application of warm-up variations

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## Abstract:

This study aims to increase students' enthusiasm and learning outcomes in Physical Education (PE) learning, especially on physical fitness material, at SD Negeri Pakis 1/368 Surabaya through implementing warm-up variations. The qualitative method of this study was Classroom Action Research (CAR), which involved 27 students of 4A as the research participants. The data were collected through observation and learning outcome tests. All data were analyzed through some stages of classroom action research, i.e. planning, implementation, observation, reflection, and subsequent action. The results showed an increase in the average score of students' learning outcomes in the skill aspects from 81 in the first cycle to 89 in the second cycle. Meanwhile, the attitude aspect increased from 80 to 90. Moreover, applying variations of warm-ups in physical education learning has significantly improved students' enthusiasm and learning outcomes. It is recommended that PE educators pay more attention to integrating warm-up variations in learning to improve students' enthusiasm and overall learning outcomes.

**Keywords:** physical education, enthusiasm, learning outcomes, warm-up variations

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## INTRODUCTION

Physical Education (PE) learning plays a central role in promoting the health and fitness of students from an early age. Through a holistic approach, PE not only introduces physical activities, but also provides an understanding of the importance of a healthy lifestyle and sports values. (Fadhila & Ridwan, 2024) argue that physical activity that includes whole body movement is a process to maintain health and increase efficiency in completing daily work or tasks, good physical health is the key to achieving this.

Primary education institutions such as SD Negeri Pakis 1/368 Surabaya have a great responsibility in supporting students' physical and mental development. The results of research (Priyana et al., 2024) reveal that schools play a role in supporting mental health and physical activity by providing planned and directed PE learning, schools can help students acquire motor skills, increase endurance, and foster healthy living habits that will have a positive impact on their overall well-being. A purposeful learning process aims to achieve planned learning outcomes effectively (Perwira et al., 2022).

One of the crucial aspects in learning PE is the warm-up that is needed before doing more intense physical activities. before doing sports or other physical activities, it is recommended to stretch as a physical preparation step for the body (Tirtana & Hartati, 2022) and warm-up involves a series of static and dynamic movements performed on the spot, with emphasis on the teacher's instructions (Muhammad et al., 2022).

Proper warm-up can optimally prepare students' bodies for learning and physical activity and prevent injuries. By considering warm-up as the first step before physical activity, students can increase muscle flexibility, improve blood circulation, and prepare the heart and respiratory system to work more efficiently during the learning process and physical activity.

Based on a case study conducted by researchers on Thursday, April 18, 2024, at SD Negeri Pakis 1/368 Surabaya, it was found that warm-ups in PE learning in elementary schools are often considered monotonous and less interesting by students. As a result, there is a decrease in learning enthusiasm and non-optimal learning outcomes. (Yusuf et al., 2020) found the same problem, that warm-up programs in schools are often carried out routinely and lack variety. Furthermore, (Armanjaya et al, 2023) explained that limitations in the variety of movements taught made the learning process feel repetitive and monotonous. Meanwhile, recent research (Misrawati et al., 2024) found the same thing that in the ongoing PE lesson, it was seen that

some students did not focus on learning, this was due to a lack of interest in warm-up activities which were considered less interesting.

A creative and innovative approach is needed in designing warm-up activities to ensure that students are actively involved and feel motivated to learn. In line with this, (Putri & Wijaya, 2024) explained that PE learning requires a creative approach from educators in organizing the learning process, which aims to increase success in the teaching and learning process in an interactive, innovative way, and considers the unique needs and characteristics of each individual. Learning innovation can be applied by PE teachers, which helps facilitate the teaching and learning process and is in line with technological advances in the context of learning (Faturahim & Purwanto, 2023). Thus, learning PE can be a fun and productive experience for students.

Considering the problems identified in previous research, this study aims to present an innovative solution through the design of warm-up movement variations. To increase the effectiveness and engagement of students in learning PE new methods that are more interactive, and fun are introduced. Action-reaction games, suits, games, chain jumping, and daku (don't touch me) were implemented as part of the warm-up session. This approach is expected to provide a more dynamic and engaging learning experience for students, while encouraging active participation and improving their motor skills. Through the implementation of these strategies, this research seeks to make a significant contribution to the renewal of PJOK learning methods, thus addressing the challenges that have been expressed in previous studies.

The application of warm-up variations at SD Negeri Pakis 1/368 Surabaya is an interesting effort to increase student enthusiasm and learning outcomes in PE learning. The results of the study (Malinda et al, 2022) revealed that the use of warm-up variations by integrating small game activities has been shown to affect students' interest in participating in PE lessons. By introducing variations in warm-up activities, such as games or dynamic movements, students are more actively involved in the learning process. This not only creates a more enjoyable atmosphere, but also helps to improve students' concentration and motivation to learn.

Warm-up variations can increase the effectiveness of physical education learning by introducing an element of surprise and novelty into each learning session. When students are exposed to a wide variety of interesting and different warm-up activities each time, they are more likely to stay focused and actively participate. (Maedapradana & Hartati, 2020) explain

that the delivery of appropriate warm-up material will increase students' readiness and motivation to follow the core material from the PE teacher. Thus, warm-up variations are not just an initial routine, but also an effective learning strategy in achieving the learning objectives of PE.

Through implementing warm-up variations, it is expected that students at SD Negeri Pakis 1/368 Surabaya will experience a more meaningful and enjoyable learning experience in learning PE. With increased enthusiasm and student engagement, it is also expected that there will be an increase in learning outcomes and their understanding of the concepts taught in the subject.

This study aimed to explore the impact of warm-up variations in PE learning at SD Negeri Pakis 1/368 Surabaya on students' enthusiasm and learning outcomes in physical fitness materials. It is expected that this study can reveal whether variations in warm-up methods can increase students' interest in learning and engagement in learning physical education. Thus, it can make a significant contribution in the development of more effective and enjoyable PE learning methods for elementary school students, especially in the environment of SD Negeri Pakis 1/368 Surabaya.

## **MATERIAL AND METHODS**

Classroom action research (CAR) is research initiated by educators in the classroom environment where they teach, focused on improving learning methods and practices (Ginting et al., 2024). This research procedure adopted the spiral model of Classroom Action Research (CAR) from C. Kemmis and Mc. Taggart which consists of four main stages: planning, action, observation, and reflection. In the planning stage, the researcher designed a variety of innovative warm-up movements for Physical Education, Sports and Health (PE) learning, with the aim of increasing students' enthusiasm and learning outcomes. The concrete steps planned included selecting appropriate games, preparing teaching materials, and scheduling activities.

The action phase involved implementing the plan in a classroom setting, where action-reaction games, suits, games, chain jumping, and daku (don't touch me) were used interchangeably as part of the warm-up session. These activities were designed to make the warm-up session more interesting and varied, thus stimulating students' interest to actively participate.

Next, the observation stage was conducted to monitor students' responses and participation during the implementation of the warm-up variations. The researcher records changes in students' enthusiasm levels and learning outcomes, using pre-set measuring tools, such as observation sheets, field notes, and learning outcome assessments.

Finally, the reflection stage allows the researcher to analyze the data that has been collected, evaluate the effectiveness of the methods used, and identify aspects that need improvement. Based on this reflection, the

This study aims to increase student enthusiasm and student learning outcomes in the application of warm-up variations in Physical Education, Sports and Health (PE) learning material on physical fitness at SD Negeri Pakis 1/368 Surabaya. The subjects in this study were all students of class 4A consisting of 27 students. The implementation of warm-up variations in PE learning includes indicators, as follows:

1. Student participation in PE lessons in the application of warm-up variations has experienced a significant increase, reaching a very good category with an average score of at least 83.
2. More than 80% of all fourth-grade students at SD Negeri Pakis 1/368 achieved an adequate level of mastery of individual material, with a score equal to or greater than 83 in PE learning through the application of warm-up variations beyond the Minimum Completion Criteria (KKM) set by the school.

This research method was conducted in two cycles. The first cycle included planning, implementation, observation, and reflection stages. In the planning stage, researchers designed warm-up variations that would be applied according to the characteristics of students and learning materials. Furthermore, at the implementation stage, the warm-up variations were applied in direct learning. Observation was conducted to monitor student enthusiasm and measure student learning outcomes through tests and direct observation of their physical abilities. The reflection stage is conducted to evaluate the success of the warm-up variation implementation and determine the necessary improvement steps. The second cycle was conducted by considering the evaluation results of the first cycle.

In the second cycle, the warm-up variations that had been adapted to the first cycle evaluation were reapplied with better adjustments. The process of planning, implementation, observation, and reflection is again carried out to correct weaknesses and improve learning

success. Thus, through the action research method with two cycles, it is hoped that an increase in student enthusiasm and student learning outcomes in learning PE physical fitness material at SD Negeri Pakis 1/368 Surabaya can be achieved.

**Table 1.** Indicator of Learning Outcome Assessment Skill Aspect

| No | Indicators         | Indicators                                                                                                                                  |
|----|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Movement Execution | This indicator covers the student's ability to perform fitness exercises correctly and effectively                                          |
| 2. | Ability            | This indicator assesses the extent to which students can adjust to different types of fitness exercises and different levels of difficulty. |

The data collected in this study includes information about students' learning enthusiasm, which is collected through observation in accordance with the learning enthusiasm indicators listed in the special observation sheet. The increase in students' learning enthusiasm in learning PE, especially in physical fitness material, is considered significant if it reaches 83% or more, showing a high level of enthusiasm both individually and. In addition, learning outcomes are measured in terms of student skills. Evaluation of learning outcomes uses scores and setting standards of success. Skill assessment refers to Table 1, while attitude assessment is represented in Table 2.

**Table 2.** Enthusiastic Learning Assessment Indicator

| No | Indicators           | Indicators                                                                                            |
|----|----------------------|-------------------------------------------------------------------------------------------------------|
| 1. | Active Participation | This indicator covers the level of student engagement in the various warm-up activities being taught. |
| 2. | Positive Response    | This indicator covers students' responses to the variety of warm-up techniques applied in learning.   |
| 3. | Skill Improvement    | This indicator covers students' progress in mastering the fitness skills taught during learning.      |

## RESULTS

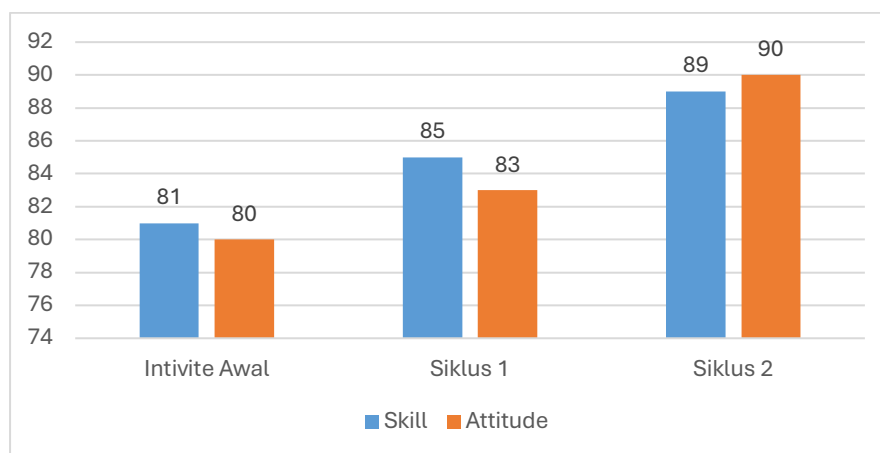
The results of the initial stage of the research showed that the level of enthusiasm of students in learning PE, especially in physical fitness material, had not reached the expected level.

| No | Prasiklus |          | Siklus 1 |          | Siklus 2 |          |
|----|-----------|----------|----------|----------|----------|----------|
|    | Skill     | Attitude | Skill    | Attitude | Skill    | Attitude |
| 1  | 84        | 90       | 85       | 90       | 85       | 85       |
| 2  | 79        | 89       | 83       | 90       | 95       | 95       |
| 3  | 86        | 85       | 88       | 75       | 88       | 95       |
| 4  | 85        | 85       | 87       | 90       | 87       | 87       |
| 5  | 80        | 80       | 89       | 89       | 89       | 89       |
| 6  | 78        | 85       | 84       | 89       | 90       | 90       |
| 7  | 78        | 84       | 90       | 88       | 90       | 90       |
| 8  | 84        | 84       | 86       | 87       | 88       | 88       |
| 9  | 78        | 84       | 83       | 82       | 93       | 93       |
| 10 | 84        | 84       | 84       | 87       | 87       | 95       |
| 11 | 85        | 75       | 89       | 87       | 93       | 93       |
| 12 | 77        | 83       | 90       | 77       | 90       | 94       |
| 13 | 84        | 83       | 85       | 85       | 85       | 85       |
| 14 | 83        | 74       | 83       | 85       | 90       | 90       |
| 15 | 79        | 83       | 83       | 80       | 89       | 89       |
| 16 | 80        | 82       | 83       | 84       | 92       | 92       |
| 17 | 76        | 80       | 87       | 84       | 87       | 87       |
| 18 | 79        | 80       | 83       | 84       | 90       | 90       |
| 19 | 85        | 80       | 85       | 83       | 85       | 85       |
| 20 | 83        | 79       | 90       | 73       | 90       | 90       |
| 21 | 84        | 79       | 84       | 83       | 94       | 93       |
| 22 | 85        | 78       | 87       | 81       | 87       | 94       |
| 23 | 75        | 77       | 90       | 83       | 90       | 90       |
| 24 | 83        | 76       | 83       | 83       | 92       | 92       |
| 25 | 80        | 75       | 87       | 80       | 87       | 87       |
| 26 | 83        | 75       | 83       | 83       | 88       | 88       |
| 27 | 82        | 70       | 83       | 83       | 90       | 90       |

The average student learning outcomes in the skill aspect with a score of 81, while the attitude aspect with a score of 80. Initial observations show that students' interest in learning warm-up variations still needs to be improved. In addition, the initial evaluation of learning outcomes showed room for improvement in terms of student attitudes and skills.

The first cycle showed a significant improvement in students' enthusiasm as well as their learning outcomes. The average student learning outcomes in the skill aspect increased with a score of 85, while the attitude aspect increased with a score of 83 but did not show the expected results. The warm-up variations applied to PE learning resulted in positive responses from students, but some students did not show a more active level of participation in warm-up activities. Observation shows an increase in students' enthusiasm for learning physical fitness material, which is reflected in the mastery of skills during learning. In addition, the evaluation

of learning outcomes showed an improvement in the mastery of the physical fitness skills taught.



**Figure 1.** Learning Outcomes

In the second cycle, efforts to improve student enthusiasm and learning outcomes continued based on reflection of the first cycle results. The improvements implemented included refinements in planning more interesting warm-up variations and more interactive learning strategies. The average student learning outcomes in the skill aspect improved with a score of 89, while the attitude aspect improved with a score of 90. Results from the second cycle showed a further increase in student enthusiasm, with more positive responses to the warm-up variations implemented. Observations also showed that students' interest in learning was increasing, which was reflected in their level of participation and engagement during the lesson. Evaluation of learning outcomes also revealed continued improvement in the mastery of physical fitness skills. Thus, the second cycle reinforced the findings from the first cycle, confirming that the consistent implementation of warm-up variations in PE learning can improve students' enthusiasm and their learning outcomes in physical fitness materials.

## DISCUSSION

In the early stages of the research, the initial conditions of students' enthusiasm and their learning outcomes in physical fitness materials were identified. A total of 14 students (52%) students were complete and 13 students (48%) were not complete in the skill aspect. Then 12 students were complete (44%) and 15 students (56%) were not complete in the attitude aspect. This initial data is the basis for designing interventions that suit the needs of

students. Analysis of students' learning enthusiasm and understanding of physical fitness material provides an overview of areas that need to be improved in learning. From the data, it can be concluded that there are variations in students' skill levels and attitudes towards the material. This indicates the need for a differential approach in designing learning strategies that can meet the individual needs of each student.

The results of this analysis mean that appropriate intervention steps can be designed to improve students' enthusiasm and learning outcomes in physical fitness materials. By paying attention to the specific needs of students, it is expected that learning can be more effective and provide optimal results for each student at SD Negeri Pakis 1/368 Surabaya.

Cycle 1 was the implementation stage of the designed intervention. The warm-up variations that have been selected are systematically applied in PE learning. Observations were made to monitor the level of student participation, response to the warm-up variations, and progress in mastering physical fitness skills. However, there were 7 students (26%) who were not yet complete in the attitude aspect. The data obtained from this cycle provided an initial picture of the effectiveness of the intervention implemented.

The results of cycle 1 were used as a basis for reflection and adjustment in cycle 2. Through analysis of observation data and student learning outcomes, the success of the intervention was evaluated and areas for improvement identified. Necessary changes in lesson planning and implementation were identified to improve the effectiveness of the intervention.

Cycle 2 was the implementation stage of the changes that had been planned based on the results of the reflection from the previous cycle. Warm-up variations that have been adapted to the needs of students are again applied in learning. Observations were made to monitor students' responses to the changes and their progress in achieving the learning objectives.

The data obtained from cycle 2 was used to evaluate the effectiveness of the changes made in improving students' enthusiasm and learning outcomes. Analysis of student responses and learning outcomes helps to determine whether the interventions have been successful or require further adjustments.

The conclusions from the initial stage, cycle 1, and cycle 2 provide an overview of the effectiveness of implementing warm-up variations in increasing students' enthusiasm and their learning outcomes in learning PE physical fitness material. The implications of this study can be used as a guideline for teachers in designing more effective and interesting learning for

students. In addition, the findings from this study can also contribute to the development of more innovative curriculum and learning strategies in the field of physical education.

## CONCLUSION

In this study, the results show that the application of warm-up variations in PE learning has a significant positive impact. Through the method of classroom action research (CAR) with two cycles, it can be concluded that students' enthusiasm for physical fitness learning increased significantly. Students' participation in warm-up activities actively increased, along with a positive response to the variation of warm-up techniques applied. In addition, there was a significant increase in fitness skills mastered by students during learning. Evaluation of learning outcomes in terms of knowledge and skills showed satisfactory improvement, with most students successfully achieving or exceeding the set standards of success. Thus, it can be concluded that the application of warm-up variations in physical education learning on physical fitness materials contributes positively to students' enthusiasm and their learning outcomes at SD Negeri Pakis 1/368 Surabaya. This conclusion provides a strong foundation for the development of more effective learning strategies in improving physical fitness learning in this school and possibly in other schools as well.

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