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Improving Volleyball Underhand Serve Learning Outcomes Through the Wheelbarrow Game Approach

Haslindah[1A-E*], Ahmad Rum Bismar[2-D], Suwardi[3B-D], Muh. Adnan Hudain[4B-D], Ramli[5B-D]

[1,3,4]Physical Education and Sports Study Program, Postgraduate, Makssar State University, Makassar City, Indonesia
[2]Sports Coaching Education Study Program, Faculty of Sports and Health Sciences, Makassar State University, Makassar City, South Sulawesi, Indonesia
[5]Elementary School Physical Education, Health and Recreation Study Program, Faculty of Sports and Health Sciences, Makassar State University, Makassar City, Indonesia

haslindah.xiia313@gmail.com[1*], ahmad.rum.bismar@unm.ac.id[2], suwardi6603@unm.ac.id[3], muh.adnan.hudain@unm.ac.id[4], ramli@unm.ac.id[5]

ABSTRACT

The purpose of the study was to determine the improvement of learning outcomes of mini volleyball underhand passing through the Pushcart Game Approach for Students of UPT SPF SD Inpres Bertingkat Bara-Barayya II. This study is a classroom action research using several cycles (pre-cycle, cycle I and cycle II) to see the improvement of students after being given the crab walk game. The study was conducted 2 times in one meeting so the total meetings for 2 cycles were 4 times besides one meeting for the pre-cycle. The number of samples was 24 grade V students. The indicator of learning completeness is if students get a score above 80. The results of the study showed that in the pre-cycle activities, the number of students who completed learning was 4 students and did not complete as many as 20 students or 17% of students completed and 83% of students did not complete. In cycle I, the number of students who completed learning was 6 students and 18 students did not complete or 25% of students completed and 75% of students did not complete, while in cycle II there was a significant increase in student learning completeness to 24 students completed or 100%. The conclusion is that the wheelbarrow game can improve the learning outcomes of mini volleyball underarm serve in UPT SPF students at SD Inpres Bertingkat Bara-Barayya II.

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INTRODUCTION

In volleyball extracurricular activities, students must pay attention to learning to master the basic techniques of playing volleyball. The basic volleyball techniques that can be learned include basic serve, pass, set-up, smash, and block (Juhanis et al., 2023; Nawir et al., 2023). Mastery of basic volleyball movements is one of the elements that

determine the winner or loser of a match (Isabella & Bakti, 2021). A serve is a hit of the ball from behind the court line over the net to the opponent's area. The serve is done at the beginning and after a mistake occurs, the serve must be done well and perfectly by all players, because a service mistake increases by points for the opponent what is unique is that each player will do this serve (Karmila et al., 2024). Thus the importance of the position of the serve in volleyball, the basic service technique must be mastered well (Yusril et al., 2024). The most basic type of serve that is often taught at the beginner level is the underhand serve. This technique is relatively easier to do compared to other types of service, so it is suitable to be taught to elementary school students (Widhiasto et al., 2020). However, based on initial observations at the UPT SPF SD Inpres Bertingkat Bara-Barayya II, many students still have difficulty in doing underhand serves properly and correctly. This can be seen from the low success rate of students in doing underhand serves when playing volleyball.

Various factors can cause low learning outcomes for students' underhand serves, including lack of student interest and motivation, less interesting learning methods, and lack of variation in underhand serve technique training (Sarlin & Brilin., 2015). To overcome these problems, an innovative and fun learning approach is needed for students. One approach that can be used is through games. Games are fun activities and can increase students' motivation to learn. Through games, students can learn various learning outcomes without feeling burdened and pressured.

The low learning outcomes for volleyball underhand serves in students at the UPT SPF SD Inpres Bertingkat Bara-Barayya II are due to the complexity of the problems in the physical education learning process. Based on the initial data obtained, out of 24 students who participated in volleyball practice, only 3 students (12.5%) were able to obtain a score above the KKM. of the 3 students were able to demonstrate the correct initial movement, arm swing, ball contact, service direction and arm strength. While 21 students were not able to meet the assessment of Standing up straight, feet shoulder-width apart, body weight resting on both feet, the ball held with both hands in front of the body. The position is very incorrect, and not following the correct technique. Not swinging the arms or the arm swing is very weak so that the ball is not thrown. The ball is not directed and often hits the body itself or teammates so in the learning outcome assessment process 21 students did not complete the learning outcomes. The average value produced in the initial observation was only able to reach 60 out of 24 students so those who were able to achieve the Minimum Completion Criteria (KKM) with a score above 80. This condition indicates a significant gap in the mastery of basic underarm service skills, which is not only related to the physical abilities of students but also the learning methods applied.

One form of game that can be used to improve learning outcomes in volleyball underhand serves is the wheelbarrow game. This game involves hand movements and body coordination that are similar to the underhand serve movement in volleyball. The wheelbarrow game is played by one student holding his friend's feet, while the other

student walks with his hands. This movement is similar to the swinging movement of the hand when doing an underhand serve in volleyball.

Through the wheelbarrow game, it is hoped that students can train arm strength, motor coordination, and swing accuracy needed to do an underhand serve in volleyball. In addition, the wheelbarrow game can also improve cooperation and social interaction between students, which are important aspects of physical education (Ihsan & Djalal, 2014).

One of the main causes of difficulty in doing an underhand serve is the lack of structured and consistent training. Many students do not pay special attention to the underhand serve technique, considering it an easy learning outcome. As a result, they do not allocate enough time to practice and perfect this technique. Mistakes in basic techniques often become obstacles for students in doing an effective underhand serve. For example, improper body position, inefficient arm swing, or inaccurate hand contact with the ball can result in inconsistent or even failed serves.

The lower serve shot is also very weak so the opponent can easily control the ball for a counterattack. The flight of the ball when the ball is served is too forward and bounces short, making it difficult to hit. When hitting the ball, the elbow is bent too much and the fingers are gripped or close together, not open, making it difficult to direct the ball. In the final stance, the back leg stays in place, does not move, and steps forward so that the balance of the body when hitting the ball becomes more inclined forward, resulting in the ball falling forward too quickly and not passing over the net. In the right position, the blow is still too weak so it is still easy for the opponent to return it.

A lack of understanding of the mechanics of the underhand serve movement can also be a cause of difficulty. Some students may not realize the importance of coordination between leg, waist, and arm movements in producing a powerful and accurate serve. Suboptimal physical conditions can also affect the quality of the underhand serve. Lack of arm and shoulder muscle strength, limited flexibility, or fatigue can reduce the effectiveness and consistency of the underhand serve. Lack of variation in underhand serve training can cause boredom and decrease students' motivation to improve this learning outcome. Monotonous training tends to make students lose focus and not maximize their underhand serve technique. Another mistake that often occurs in the underhand serve technique is hitting it too slowly. Hitting it too slowly makes it difficult for the ball to cross into the opponent's area or even unable to cross over the net. This is certainly detrimental to the team. The next mistake is the ball moving upwards. The ball that is served should move forward into the opponent's area, but sometimes the ball moves upwards and returns to our standing position. This is due to an error in the technique of hitting the ball. What must be done is to direct the inner fist forward and hit the ball while pushing it forward. That way, the ball will not move upwards. Also, make sure the fist is tense so that it has enough strength to cross the net.

This is very important to note in learning outcomes, especially for beginners. Conditions that do not allow students to learn with existing facilities require teachers to be creative so that learning objectives can be achieved properly. Learning that does not

Haslindah[1A-E*], Ahmad Rum Bismar[2-D], Suwardi[3B-D], Muh. Adnan Hudain[4B-D], Ramli[5B-D]
haslindah.xiia313@gmail.com[1*]

pay attention to the level of development and growth of students (eg students are not ready, do not have sufficient strength), must find the right solution according to the student's condition (Ishak et al., 2023; Malik et al., 2024). In efforts to improve volleyball underhand serve skills, a teacher must be able to apply the right teaching model and approach, including learning using the wheelbarrow approach. One of the learning models taken is to modify or take an approach to core movements.

Lack of feedback and correction from coaches or more experienced students can cause students to continue to repeat the same mistakes without realizing it. Without proper guidance, students may develop bad habits that are difficult to correct later on. Based on this background, the researcher is interested in researching improving the learning outcomes of volleyball underhand service through a pushcart game approach for students of UPT SPF SD Inpres Bertingkat Bara-Barayya II.

METHODS

The method used is Classroom Action Research (CAR). Classroom action research (CAR) is an observation of learning activities in the form of an action that is deliberately raised and occurs in a class together (Astaman et al., 2024; Ratna et al., 2024). This classroom action research will be carried out for approximately 1 month with 2 meetings in one meeting so that the total meetings for 2 cycles are 4 times apart from one meeting for the pre-cycle (initial observation). The implementation is planned for October 2024. The research location is at the UPT SPF SD Negeri Jl. Cambajawayya No. 11 Kelurahan Tello Baru Kecamatan Panakukkang Makassar City, South Sulawesi Province.

The design of this classroom action research (CAR) is carried out in 2 cycles with 4 stages in each cycle, namely: planning, implementation, observation and reflection. The indicator of the success of this CAR is said to be successful if students classically get a score of more than or equal to 80.

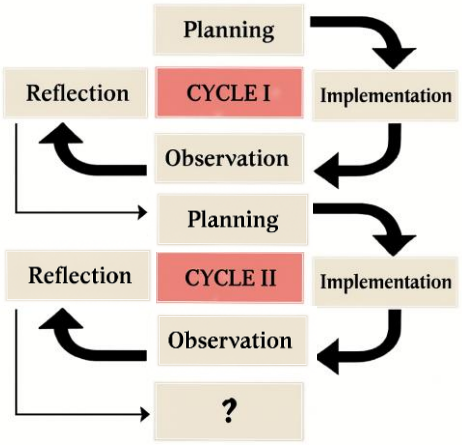

Image 1
Research Design

The 2-cycle PTK design generally includes the following stages:

Cycle 1 (Planning): Identifying the learning problem to be addressed. Conducting a literature review to find theories and research relevant to the identified problem. Formulating clear and specific research questions. Developing an action plan to be implemented to address the problem. Preparing instruments to collect data, such as observation sheets, questionnaires, tests, or documentation. (Implementation): Carrying out the planned actions. Collecting data during and after the action is implemented. (Observation): Analyzing the collected data to see the changes that occur. Evaluating the effectiveness of the actions that have been taken. (Reflection): Drawing conclusions based on the results of the data analysis. Formulating new problems to be studied in the next cycle.

Cycle 2 (Planning): Identifying the learning problem to be addressed. Conducting a literature review to find theories and research relevant to the identified problem. Formulating clear and specific research questions. Developing an action plan to be implemented to address the problem. Prepare instruments to collect data, such as observation sheets, questionnaires, tests, or documentation. (Implementation): Carry out the planned actions. Collect data during and after the actions are carried out. (Observation): Analyze the collected data to see the changes that have occurred. Evaluate the effectiveness of the actions that have been taken. (Reflection): Draw conclusions based on the results of data analysis. Formulate new problems that will be studied in the next cycle.

The population in this study were all students of UPT SPF SD Inpres Bertingkat Bara-Barayya II totaling 469. Researchers can choose classes that have an average lower service learning outcome below the average during the assessment in class V of UPT SPF SD Inpres Bertingkat Bara-Barayya II students totaling 24 students. Comparative in this study compares data between cycles to see changes or improvements. Can involve a comparison of pre-cycle values, cycle I and cycle II and a Comparison of success percentages between cycles.

The following are indicators of success in obtaining student learning outcomes based on national standards with the KKM 75 standard presented in the following table.

Table 1.
Indicators of Student Learning Outcomes Completion

No.	Range Value	Criteria	Description
1	> 94 – 100	Very Good	Completed
2	> 87 – 93	Good	Completed
3	≥ 80 – 86	Enough	Completed
4	< 80	Poor	Not Completed

RESULTS AND DISCUSSION

Result

Before carrying out the research process, the researcher and the teacher conducted an Initial Observation to find out the situation and condition of the students and the class regarding the learning outcomes of the Lower Service for students in grade

V of the UPT SPF SD Inpres Bertingkat Bara-Barayya II along with assessment instruments based on the independent curriculum. Before being given the action that will be used as an initial reference during the research.

Pre-cycle

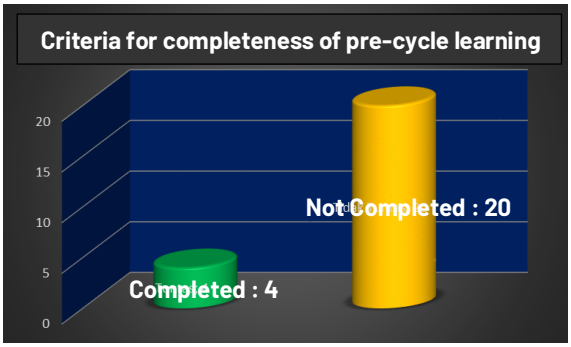

Image 2.
Pre-Cycle Learning Completion

Completed Category:

It can be seen that only 4 students managed to achieve the completion criteria in learning. This shows that they have met the set standards, namely getting a score above 80.

Incomplete Category:

On the other hand, 20 students did not complete, which means they got a score of less than 80. This indicates that the majority of students have difficulty understanding or mastering the volleyball underhand serve technique.

Cycle I

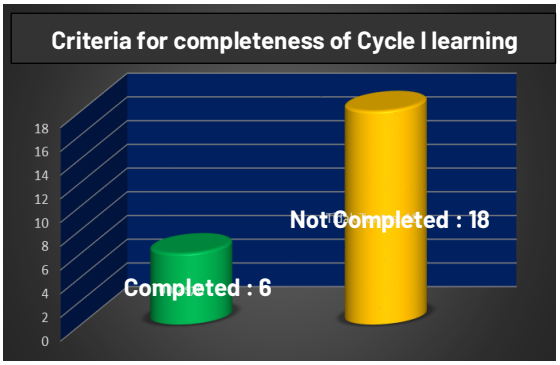

Image 3.
Cycle I Learning Completion

Completed Category:

In this category, 6 students successfully achieved the completion criteria. This shows that they have met the minimum standards set, namely getting a score above 80.

Incomplete Category:

On the other hand, 18 students did not complete it, which means they got a score of less than 80. This figure shows that most students still have difficulty in mastering the material given.

Haslindah[1A-E*], Ahmad Rum Bismar[2-D], Suwardi[3B-D], Muh. Adnan Hudain[4B-D], Ramli[5B-D]
haslindah.xiia313@gmail.com[1*]

These results reflect that the wheelbarrow game approach is starting to show results, although there are still many students who have not completed it. With 6 out of 24 students completing it, this shows progress but also shows the need for further improvement in the teaching methods applied. This diagram emphasizes the importance of evaluating and adjusting the learning strategies used. With only 6 students completing it, the teaching program needs to be improved so that more students can achieve learning completion. Further research can help identify areas that need special attention and formulate more effective strategies to improve student learning outcomes in cycle II.

Cycle II

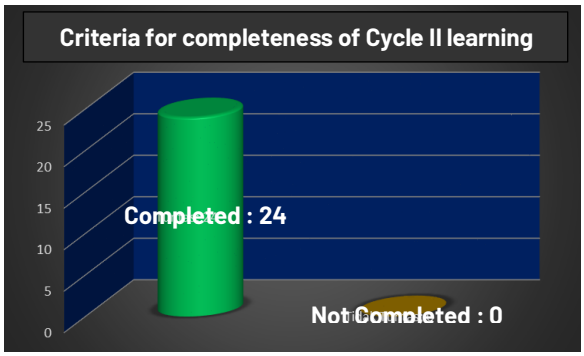

Image 4.
Cycle II Learning Completion

Completed Category:

In this category, 24 students successfully achieved the completion criteria. This shows that all students have met the minimum standards set, namely getting a score above 80.

Incomplete Category:

There were no students who fell into the incomplete category, which means 0 students got a score of less than 80. This is a very positive achievement and shows the success of the learning method applied.

These results reflect that the wheelbarrow game approach has proven effective in improving student learning outcomes. With all students achieving completion, this shows significant improvement compared to the previous cycle. This study shows the success of the learning strategy applied in Cycle II. With all students completing, this not only shows an increase in learning outcomes but also the effectiveness of the approach used.

Based on the results of the study that have been described in the bar chart above, it shows that in the pre-cycle activities, the number of students who completed learning was 4 students and did not complete as many as 20 students or as many as 17% of students completed and 83% of students did not complete. In cycle I, the number of students who completed learning was 6 students and 18 students did not complete it or 25% of students completed it and 75% of students did not complete it, while in cycle II there was a significant increase in student learning completion to 24 students completed or 100%. This achievement is the result of a recapitulation of values from psychomotor abilities explaining that all students have completed and met the learning completion

according to the learning completion criteria set. As well as meeting the class completion standard of more than 85%, this classroom action research is considered to meet the requirements to end this research in cycle II.

Discussion

The wrong starting position when performing an underhand serve is one of the causes of low student learning outcomes. Observations show that many students do not pay attention to their foot position, do not do the correct ready position, and have an unbalanced body position when serving. Some students also appear inconsistent in performing a series of initial movements, resulting in unstable serve results. This is in line with Kusuma's research (2021) which found that the correct starting position contributes 75% to the success of an underhand serve.

Coordination of movement between the starting position, arm swing, and contact with the ball is also a significant problem. Most students have difficulty combining a series of movements into a harmonious whole. Incorrect timing between the arm swing and the release of the ball often occurs, resulting in ineffective hits. Research (Peri Gentari Putra et al., 2025) supports this finding by stating that movement coordination is a crucial component in learning volleyball underhand serves.

The application of the pushcart game in Cycle I provides new experiences for students in learning underhand serves. Through this game, students began to show better enthusiasm for learning. This is following research (Pamungkas, 2020) which shows that the play approach can increase students' learning motivation in physical education learning.

In cycle I, even though the wheelbarrow game approach has been implemented, there is still incompleteness in the aspect of arm muscle strength. Although there was an increase compared to the pre-cycle, out of 24 students, there were still 18 students who had not achieved completion. The wheelbarrow game that was implemented began to have a positive impact on strengthening students' arm muscles, but the duration and intensity of the training still need to be increased. Several students have shown improvements in terms of punch strength, but have not been consistent in producing adequate power for effective underhand serves. Research (Cahyono et al., 2018) shows that the formation of arm muscle strength requires adaptation time to achieve optimal results between the approach and core movements, which will be seen in cycle II.

The success in cycle II cannot be separated from the modification and refinement of the wheelbarrow game approach. The teacher provides more detailed explanations, clearer demonstrations, and more structured practice time. This is supported by research (Wijayanto et al., 2020) which emphasizes the importance of improving learning methods based on evaluation results.

Consistent improvement from pre-cycle to cycle II proves that the pushcart game approach is the right solution to improve volleyball underhand serve learning outcomes. The results of this study are also in line with previous research conducted by (Astuti, 2017) which found that the play approach can improve basic skills in volleyball learning at the elementary school level. The success of this study provides important implications for the development of physical education learning methods, especially in volleyball underhand serve learning. The push-cart game approach has proven to be an alternative solution for improving student learning outcomes while creating a fun and effective learning atmosphere.

CONCLUSION

There was an increase in the learning outcomes of grade V students of UPT SPF SD Inpres Bertingkat Bara-Barayya II by using the pushcart approach. The value obtained in the pre-cycle average value was 59.38 with a completion percentage of 16.67%. Cycle I's average value was 66.88 with a completion percentage of 25%. Cycle II average value was 78.83 with a completion percentage of 100%.

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