

Implementation of the Drill Method to Improve Volleyball Underhand Pass Learning Outcomes

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ABSTRACT

Background: Volleyball instruction in schools aims to develop students' basic technical skills, one of which is the underhand pass, a crucial foundation of the game. However, many students still struggle with effective underhand passes due to a lack of technical mastery and targeted practice. Therefore, effective learning methods are needed to improve skills learning outcomes. **Purpose:** This study aims to determine the implementation of the drill method to improve the learning outcomes of volleyball underhand passing. **Methods:** This study is a classroom action research conducted in two cycles. The subjects in this study were 31 students of class XI. The instrument used was a volleyball underhand passing performance test. The data analysis technique was carried out descriptively by calculating the percentage of student learning outcomes completion in each cycle. **Results:** Based on the results of the analysis, it shows that in cycle I the number of students who completed the learning was 16 people or 51.6%, and those who had not completed were 15 people or 48.3%. After being given treatment in cycle II, the number of students who completed the learning increased to 28 people or 90.3%, and those who had not completed it decreased to 3 people or 9.7%. The increase from cycle I to cycle II was 38.7%. **Conclusion:** Based on the research results, it can be concluded that the implementation of the drill method has proven effective in improving learning outcomes in volleyball underhand passing. Through repeated, directed, and gradual practice, students are able to improve basic techniques, increase accuracy, and strengthen motor coordination in underhand passing. Furthermore, the drill method also has a positive impact on student motivation and activeness during the learning process. Therefore, the implementation of the drill method can be used as an alternative effective learning strategy to improve basic volleyball technical skills, particularly underhand passing. **Implications and Recommendation:** The results of this study indicate that the implementation of the drill method has a positive effect on improving learning outcomes in volleyball underhand passing. Physical education teachers are advised to routinely implement the drill method in teaching basic volleyball techniques, particularly underhand passing. Training should be structured in stages with a variety of drill formats to prevent boredom and maintain student motivation. Schools are expected to provide adequate facilities and infrastructure to support effective training.

Keywords: Drill Method; Underhand Passing; Volleyball

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INTRODUCTION

Physical education is an integral part of the national education system, aiming to develop students' physical, psychomotor, cognitive, and affective aspects in a balanced manner (Tifal, 2023). One of the important materials in physical education in secondary schools is volleyball (Fanani, 2020; Andini, 2023; Komandan et al., 2025). Volleyball was chosen not



only for its fitness aspects but also because it can instill the values of cooperation, sportsmanship, and discipline. In volleyball learning, basic techniques play a crucial role in determining success in the game, and one of the most fundamental techniques is the underhand pass (Alwi & Asshagab, 2024). The underhand pass is a basic skill that every volleyball player must master, as this technique is used to receive an opponent's serve and control the ball from unexpected smashes or bounces (Firdaus & Fahrizqi, 2023). However, in reality, many students still experience difficulty in mastering the underhand pass technique correctly. Common mistakes include inappropriate body position, weak arm coordination, and lack of reflexes in adjusting the direction of the ball (Karlia & Sawali, 2024).

The low learning outcomes of students in underhand passing indicate the need for more effective and applicable learning strategies. One approach that can be used is the drill method, a repetitive practice method aimed at strengthening mastery of specific skills (Indah, 2022). The drill method is considered appropriate because it provides students with the opportunity to practice movements repeatedly in a controlled environment, thereby strengthening muscle memory, correcting technical errors, and increasing skill consistency. Theoretically, the drill method originates from behaviorist theory, which emphasizes the importance of habit formation through repetition of stimulus and response. In the context of motor skill learning, the drill method is used to strengthen the association between stimulus (instruction or game situation) and response (movement or specific technical action) (Fanani, 2020). The main learning principle in behaviorism is the "law of exercise," which states that the relationship between stimulus and response will be strengthened through continuous practice.

Learning sports skills, repetitive practice or drills are very effective in increasing movement automation and technical precision. According to Astuti (2017), structured and consistent repetition of movements can accelerate the formation of internal motor programs, which enable someone to execute skills more efficiently and timely. The underhand pass, as a basic skill in volleyball, requires mastery of the correct basic movements, such as foot position, arm angle, and contact time with the ball. Through the drill method, students can focus more on strengthening these movement components in an isolated and systematic manner, before applying them in more complex game situations.

Several previous studies have demonstrated the effectiveness of the drill method in learning sports skills. Research by Rusli et al., (2022) showed that consistent use of the drill method significantly improved junior high school students' underhand passing skills. Similar results were also obtained in a study by Ruslan & Duhe (2021), which revealed that students trained using the drill approach showed greater improvement compared to those trained using a conventional learning approach. On the other hand, research conducted by Indah (2022) highlighted that the drill method can increase student learning motivation because students feel more confident when they are able to perform movements correctly after repeated practice. However, she also noted that monotonous drills without variation can lead to student boredom if not designed in an interesting and progressive manner. Although many studies have shown the positive impact of the drill method on sports technical skills, there are not many studies that specifically examine its impact on volleyball underhand passing skills in junior high school students with a strong experimental design. Therefore, this study is expected to fill this gap.

The systematic application of the drill method in the learning process of underhand passing with a pretest-posttest control group design allows researchers to objectively evaluate the impact of drill training compared to conventional learning methods (Addivinola et al., 2021). Furthermore, this study also involves quantitative measurement of learning outcomes using a standardized passing technique skill evaluation instrument. The local context of the study, conducted at the vocational high school level, is also novel, as the majority of previous studies were conducted in junior high schools or in sports club training. Therefore, the results of this study are expected to provide theoretical and practical contributions to physical education learning in schools with different student characteristics. The main objective of this study is to determine the effect of the drill method on improving learning outcomes of underhand passing in volleyball. This study provides reinforcement to behaviorist theories and motor learning, particularly in the context of the effectiveness of repetitive practice (drill) to improve specific skills. The results of this study also add to the relevant empirical literature in the field of physical education and sports.

METHOD

This research is a classroom action research. The distinctive characteristic of this classroom action research is the existence of certain actions through the application of the drill method in an effort to improve the learning outcomes of underhand passing in volleyball. The subjects in this study were 31 students of class XI SMA Negeri 1 Pasarwajo. To answer the existing problems, several factors were investigated. These factors are student factors: how the activity and improvement of underhand passing learning outcomes through the application of learning using the drill method. Teacher factors, namely to see whether the teacher has implemented the learning stages implemented in learning using the drill method. Learning method factors namely to see whether the applied method is effective in improving learning outcomes.

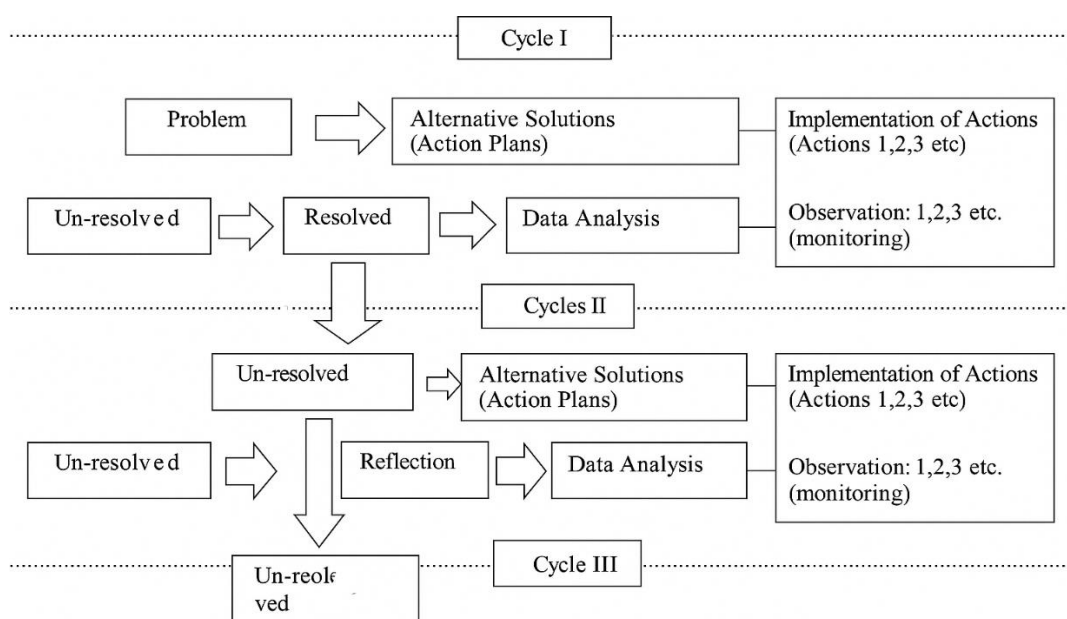


Figure 1. Research design (Salmah et al., 2025)

The data analysis technique used was descriptive data analysis, which assesses each evaluation result using numbers. The success indicator in this study was that at least 80% of students had obtained a minimum score of 75. The learning process used the drill method carried out by teachers and students, with at least 80% of the observed aspects being implemented (as determined by the school).

RESULTS AND DISCUSSION

Findings

The data from the evaluation of the student learning process were analyzed descriptively using a percentage test. The results of the evaluation of the student learning process regarding volleyball underhand passing skills can be seen in the following table:

Table 1. Results of the evaluation of volleyball underhand passing skills learning

Number of Students	Success (%)	Completion
16	51,6%	Completed
15	48,3%	Not Completed

Based on the data in Table 1, it is known that of the 31 students who took the volleyball underhand passing skills test in cycle I, only 16 students, or 51.6%, achieved learning completion, namely obtaining a minimum score of 75. Meanwhile, as many as 15 students, or 48.3%, did not achieve learning completion. This indicates that the success indicator of at least 80% in cycle I has not been achieved.

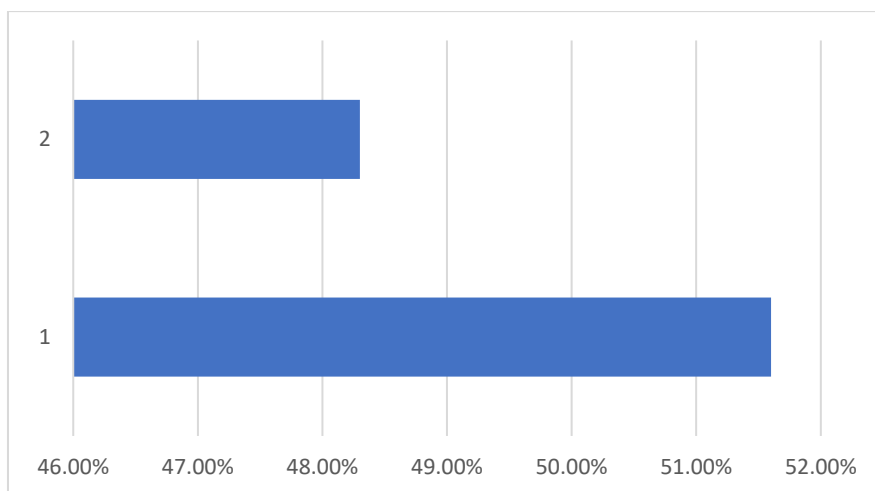


Figure 2. Histogram of volleyball underhand passing evaluation results

Data from the learning process evaluation on the volleyball underhand passing skills test in Cycle II can be seen in Appendix VIII. To determine the results of the student learning process evaluation, the data were analyzed descriptively using a percentage test. The results of the student learning process evaluation on volleyball underhand passing skills can be seen in the following table.

Table 3. Results of student learning evaluation in the volleyball underhand passing test

Number of Students	Success (%)	Completion
28	90,3%	Completed
3	9,7%	Not Completed

Based on Table 2, the learning outcomes of volleyball underhand passing skills in cycle II increased by 38.7%, with 28 students (90.3%) achieving mastery, and 3 students (9.7%) failing to achieve mastery. This achievement indicates that the learning success indicator, which is a minimum of 80% of students achieving mastery, has been met in cycle II.

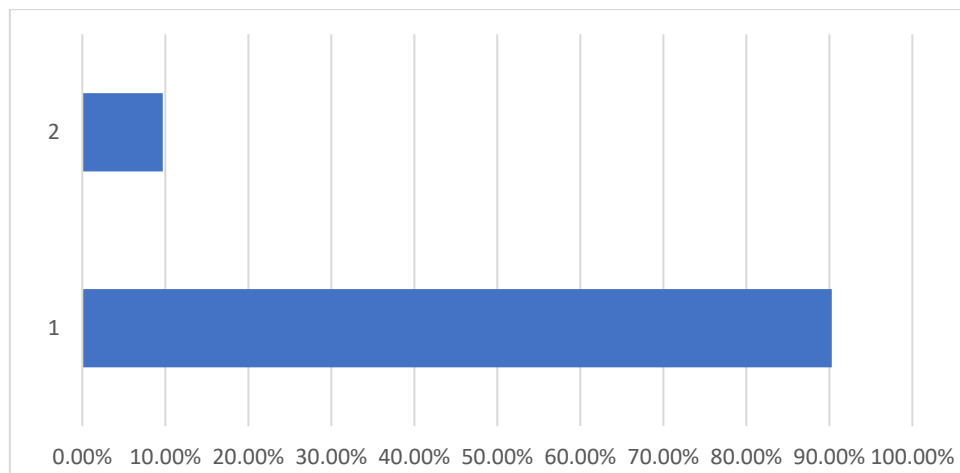


Figure 4. Histogram of volleyball underhand passing evaluation results

This study aims to determine the extent to which the drill method influences the improvement of underhand passing learning outcomes in volleyball. Based on the analysis of data obtained from the experimental group (treated with the drill method) and the control group (treated with the conventional method), it was found that students who learned using the drill method experienced a more significant improvement in underhand passing ability compared to the control group. The significant improvement in underhand passing ability in the experimental group indicates that the drill method is highly effective in improving and enhancing basic volleyball technical skills. This indicates that learning with the drill method is able to provide a structured and focused learning stimulus, which directly accelerates mastery of underhand passing movements. Learning through repetitive drills allows students to correct movement errors, optimize body position, and strengthen reflexes and catching ability in responding to the ball.

This finding aligns with the motor learning theory proposed by oleh Fadillah & Hadi (2024) which states that motor skills can be improved through systematic and repeated practice. Directed, repetitive practice creates an internal motor program that enables a person to perform skills more quickly and efficiently. Behaviorist theory, particularly Thorndike's "law of exercise," explains that the stimulus-response relationship strengthens with repetition. In this context, drills serve as a concrete form of stimulus-response reinforcement, where students are repeatedly confronted with underhand conditions until the desired motor behavior is reinforced.

The results of this study align with research conducted by Astuti (2017), which showed that the drill method significantly improved the basic volleyball technique skills of junior high school students. In that study, students who trained with the drill approach demonstrated better movement consistency than students trained with a mixed method. Similarly, research by Rusli (2023), confirmed that the drill method can accelerate technique mastery because students have more opportunities for correction and repetition. Their research also highlighted that drills can build student confidence because they are more confident when mastering techniques repeatedly. However, several studies also highlight that the success of the drill method is highly dependent on the quality of the exercise implementation, the variety of activities, and student motivation. Without proper planning, drill training can become monotonous and less engaging for students. Therefore, although the results of this study align with previous findings, its success is greatly influenced by the role of the teacher in managing drill activities to keep them effective and enjoyable.

One novel aspect of this study is the application of the drill method to vocational high school (SMK) students, a topic that has not been widely researched in the context of learning basic volleyball techniques. Most previous studies have been conducted at the junior high school level or with groups of young athletes outside of school. This local context is crucial, as vocational high school students have different learning loads and psychological characteristics. Therefore, the success of the drill method in this study demonstrates that this approach is adaptive and applicable in a variety of learning environments. Furthermore, this study used a quasi-experimental design with a control group, allowing researchers to directly compare the drill method with conventional learning methods. This approach strengthens the reliability of the findings and contributes to the development of evidence-based teaching models in physical education. The findings also underscore the importance of integrating structured practice and systematic repetition into the learning process of sports techniques, emphasizing that learning relies not solely on verbal explanations from the teacher but rather on continuous, focused practice of specific movements.

This research has several important implications. First, in practical terms, the results can be used by physical education teachers to design more effective learning models for teaching basic sports techniques, particularly the underhand pass in volleyball. By using the drill method, teachers can create an active and participatory learning environment, while also providing students with the opportunity to learn from their mistakes and improve their skills directly (Ruslan et al., 2021). Second, these results can be used as a basis for developing a more applicable and contextual physical education curriculum. A competency-based curriculum should emphasize not only theoretical knowledge but also practical skills that can be achieved through methods such as drills (Sugito, 2022). Third, from a professional development perspective, this research can inspire coaches and sports instructors to be more creative in designing drill variations that are appropriate to the developmental level of students. Drills don't have to be boring if they are combined with other methods such as mini-games, reflective evaluations, or match simulations.

This study was conducted at a single school with a relatively small sample size, so generalizing the results to a wider population requires caution. The drill method was applied only for a short training period. More complex or sustained skill improvement may require longer training periods. This study focused only on the underhand pass, so its

effectiveness on other volleyball techniques cannot be concluded. This study used a standard drill format. However, variations in the drill format can produce different results and may be more engaging for students. Factors such as learning motivation, student interest, or self-confidence, which can also influence underhand passing learning outcomes, were not the focus of this study.

CONCLUSION

Based on the research results, it can be concluded that the drill method has a positive effect on improving learning outcomes in underhand passing in volleyball. Students who participated in the drill approach showed a more significant improvement in skills compared to students who used conventional learning methods. This indicates that systematic and focused repetitive practice through the drill method can more effectively improve basic techniques, strengthen motor memory, and increase students' consistency and confidence in underhand passing. Thus, the drill method can be used as an alternative effective learning strategy in physical education, particularly in mastering basic volleyball skills.

CONFLICT OF INTEREST

There were no conflicts that occurred in this study.

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