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DISTANCE VARIATION APPROACH IN ELEMENTARY SCHOOL STUDENTS: LEARNING OUTCOMES OF UNDERHAND PASSING

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ABSTRACT

This study aims to enhance the learning outcomes of underhand passing in volleyball games by using a distance variation approach specifically designed for fifth-grade students at public elementary schools. The research method employs classroom action research, a one-cycle process that involves stages of planning, action, observation, and reflection. The subjects of the study were 22 fifth-grade students at Public Elementary School Parak No. 11 Kepulauan Selayar. The distance variation approach applied includes distances of 2 meters, 3 meters, and 4 meters with a focus on the assessment of accuracy (0-30), strength (0-30), and technique (0-40). The results of the study showed an increase in underhand passing ability from the initial condition, where 13 students were in the "less" category, 8 students in the "enough" category, and 1 student in the "good" category, to 0 students in the "less" category, 18 students in the "enough" category, and 2 students in the "good" category in cycle I with an average score of 84.59, and all students were declared complete in underhand passing learning outcomes. Based on the results of the study, it can be concluded that the distance variation approach is effective in improving the learning outcomes of underhand passing in volleyball games for fifth-grade students of Public Elementary School, with a completion rate reaching 100%.

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1. INTRODUCTION

Volleyball is currently experiencing rapid development, as evidenced by the emergence of strong clubs in the country and student volleyball athletes at both junior high school, high school, and college levels (Palao et al., 2021; Azizin et al., 2024). Frequent tournaments and student events, ranging from regional to national levels, are supporting this rapid development. Law Number 3 of 2005 concerning the National Sports System states that all systematic activities aim to encourage, foster, and develop physical, spiritual, and social potential. Juhanis et al. (2023) specifically highlight volleyball sports activities. Volleyball is one of the most popular and widely played

sports in Indonesia, both recreationally and competitively (Şahin & Kılınç, 2022). This sport is also part of the physical education curriculum in schools, including at the elementary school level (Nawir et al., 2023).

Volleyball learning in elementary schools aims to develop basic game skills, improve physical fitness, and instill the values of sportsmanship and cooperation in students (Wang et al., 2020; Purnomo et al., 2022). Underhand passing is a crucial skill because it is the basis for receiving serves, blocking opponent attacks, and building attacks (Giatsis et al., 2019). Good underhand passing skills will affect the success of the team in volleyball. Therefore, underhand passing learning must be provided effectively to elementary school students so that they can master this technique well (Iserbyt et al., 2020). There are several basic techniques that volleyball athletes must really master, one of which is underhand passing. Underhand passing is a technique that aims to receive, hold, and control the service or smash ball from the opposing player (Trajković et al., 2020). The underhand passing technique in volleyball is very important in preparing an attack because a perfect attack starts with a precise and accurate pass. This ability must, of course, be supported by outstanding technique from other players because to do an underhand pass, you must have adequate arm muscle strength and movement accuracy to achieve a perfect attack (Giménez-Egido et al., 2020). Some players have weaknesses in underhand passing, especially in terms of strength and accuracy. Not only the contact or touch with the ball affects the accuracy of the underhand pass, but also the harmony between hand and foot movements when pushing the ball (Kim & Park, 2021).

The underhand passing movement is one of the basic techniques that is important to master and is very useful to help provide points in volleyball (Raiola et al., 2022). Based on initial observations at Public Elementary School Parak No. 11 Kepulauan Selayar, it was found that most students still had difficulty in doing the underhand passing technique correctly. These findings can be seen from the low success rate of students in doing underhand passes, which has an impact on less than satisfactory learning outcomes in mini volleyball material. Empirical data shows that of the total students, only around 40% are able to perform underhand passes with the correct technique and achieve the learning objective completion criteria. This condition is certainly a serious concern considering that underhand passing is a crucial basic skill in volleyball (García-Ceberino et al., 2020).

Various factors have been identified as the causes of low, underhand passing learning outcomes, including less varied learning methods, minimal facilities and infrastructure, and students' lack of understanding of the correct basic techniques (Miller et al., 2022). However, the most significant factor is the lack of variation in training, which makes students tend to feel bored and less motivated. Seeing this problem, an innovation is needed in learning methods that can increase students' interest and learning outcomes in performing underhand passes (Harvey et al., 2020). One approach that can be applied is through variations in distance in underhand passing training, which is adjusted to the abilities and development of students (Araújo et al., 2019).

The application of distance variations in underhand passing learning is based on the principle of progressive learning, where students will learn from a lower level of

difficulty to a higher level (Drikos et al., 2020). This approach allows students to build confidence and skills gradually. Researchers selected Public Elementary School Parak No. 11 Kepulauan Selayar as the research location due to several considerations, including its unique geographical conditions as a school located in an archipelago. This context presents its own challenges in developing effective learning methods that are in accordance with the characteristics of local students (Koon et al., 2022).

Distance variation in underarm passing learning has several advantages, including the ability to accommodate differences in individual student abilities, create a more interesting learning atmosphere, and provide a more meaningful learning experience for students (Serra-Olivares et al., 2021). Previous studies have indicated that the application of variation in sports learning can improve student motivation and learning outcomes. This evidence is a strong basis for implementing the distance variation method in underarm passing learning at the elementary school level (Laporta et al., 2021). Success in improving underarm passing learning outcomes through distance variation will not only have an impact on students' academic achievement but will also make a positive contribution to the development of their motor and social skills. This approach is in line with the goals of comprehensive physical education (Farias et al., 2020).

In the context of education in island areas, learning innovations like this are critical given the limited access to educational facilities and resources. The distance variation method can be an effective and efficient solution in optimizing underarm passing learning by utilizing existing resources (Jarrett & Harvey, 2020).

Efforts to enhance learning outcomes for underhand passing using distance variations align with government policies aimed at developing quality education in island areas. We expect other schools with similar characteristics to adopt this learning innovation as a model (Chen et al., 2021).

Additionally, research can help identify common difficulties that elementary school students encounter while learning underhand passing. By knowing these challenges, sports teachers can design special games or game variations to address these problems (Palao et al., 2022). These modifications will help improve the quality of learning and reduce the frustration that students may experience in the process.

Facts on the ground show that there are still many elementary school students who have difficulty doing underhand passes properly. Researchers in several elementary schools have observed that students' underhand passing abilities remain suboptimal. Many students make mistakes in underhand passing techniques, such as improper body posture, inappropriate contact with the ball on the arm, and poor motor coordination (Parisi & Raiola, 2021). Such behavior often leads to improper ball direction and easy opponent return.

However, so far there is still limited research examining the effect of underhand passing training with distance variations on underhand passing ability in elementary school students. Higher level players, such as adolescent or adult athletes, have been the focus of previous studies (Silva et al., 2020). Therefore, further research is needed to determine whether underhand passing training with distance variations can improve

underhand passing ability in elementary school students. Based on this background, this study aims to analyze the differences in underhand passing abilities between groups of students before and after applying distance variations to them.

2. METHOD

Classroom action research (CAR) is a research method carried out by teachers in their classrooms through self-reflection with the aim of improving their performance as teachers so that student learning outcomes increase (Wardani & Wihardit, 2020). In the context of the distance variation approach for volleyball underhand passing, CAR can be an effective tool to improve the quality of learning and student learning outcomes. In qualitative research, the research cycle begins with selecting a research project. The next step involves compiling records of the collected data and analyzing them. Depending on the scope and depth required by the research, we repeat this process several times (Hardani et al., 2022).

We conducted two meetings for Cycle I and two more for Cycle II. We have scheduled the research time to begin in October 2024. The location is at Public Elementary School Parak No. 11. We plan to ensure students' success in passing underhand by conducting up to two cycles outside of observation or the pre-cycle. The distance variation approach given to students is 2 meters, 3 meters, and 4 meters. Each meeting in the current cycle implements this approach.

Table 1. Teacher assessment instruments

No		Criteria	Value
1	Accuracy	The ball is successfully directed to a teammate or a designated target.	0-30
2	Strength	The power of the ball is passing.	0-30
3	Technique	The position of the hands, body, and balance.	0-40
		Total	100

We explain the indicators of success in assessing student learning outcomes, which align with the national standard learning objective completion criteria of 80, as follows:

Table 2. Indicators of Student Learning Outcome Completion

No	Value Range	Criteria	Category
1	≥ 94 – 100	Very good	Completed
2	≥ 87 – 93	Good	Completed
3	≥ 80 – 86	Enough	Completed
4	< 80	Less	Not Completed

This indicator determines that if there is a significant increase in cycle I and students are declared to have completed all or achieved a score above 80, then cycle II planned in the research will not be implemented.

3. RESULTS AND DISCUSSION

Results

Pre-cycle Learning Outcomes

The initial description of learning the underhand passing ability was based on field observations and data collected from physical education and health teachers, which established the conditions for the study. In the pre-cycle, students in Class V at Public Elementary School Parak No. 11 had a low ability to learn volleyball, particularly in underhand passing during games. The results of the observation showed that out of 22 students, only 9 had achieved the learning objective completion criteria score, so the class learning completion criteria were not met. The following is a summary of the data collected from the pre-cycle observation regarding the underhand passing ability in volleyball games for Class V students at Public Elementary School Parak No. 11 (Table 3):

Table 3. Learning Outcome Value of Underhand Passing Ability in Volleyball Game in Initial Conditions

No.	Value Range	Total	Criteria	Category
1	> 93 – 100	0	Very Good	Completed
2	> 86 – 93	1	Good	Completed
3	≥ 80 – 86	8	Enough	Completed
4	< 80	13	Poor	Not Completed

Table 3 above shows that the initial condition of the volleyball game's underhand passing ability of Class V students at Public Elementary School Parak No. 11 is in the "less" category for 13 students, the "sufficient" category for 8 students, the "good" category for 1 student, and the "excellent" category for 0 students.

Learning Outcomes in Cycle I

In cycle I, the researcher and collaborator carried out CAR activities by taking a willing attitude and the following steps:

a. Planning

Based on the results of the pre-cycle observations, the researcher and the physical education teacher used these findings as initial data to guide the research actions. Before carrying out the research, the researcher and collaborator identified the problems experienced by students in the pre-cycle observation, where the researcher would remediate the shortcomings and mistakes experienced by the students. Then formulate a pattern for observing students.

b. Action

The learning implementation process takes place in two meetings, with each meeting taking 3x35 minutes. The steps in the action implementation process are as follows: Meetings 1 and 2: Underhand passing technique through a variation approach of 2 meters, 3 meters, and 4 meters.

c. Observation

Students feel enthusiastic about the variation approach of the distance given so that pupils listen well to input on mistakes made by students, and the students' strength in doing underhand passing is getting better.

d. Reflection

Overall, the actions implemented in cycle I aligned with the planning; however, the observation results indicated a need to enhance student performance to improve their skills in executing underhand passes in volleyball. Through reflection and discussion between researchers and collaborators, each aspect of the assessment will be taught more intensively and effectively in the next cycle. Based on the results of the observation of cycle I, it indicated that learning underhand passing in volleyball through the distance variation approach was not yet optimal but had reached the threshold of class completion, so there was no need to conduct research in the next cycle to improve the quality of learning and underhand passing skills in volleyball with an average value obtained by students of 84.59.

Table 4. Learning Outcome Value of Underhand Passing Ability in Volleyball Game in Cycle I

No.	Value Range	Total	Criteria	Category
1	> 93 – 100	0	Very Good	Completed
2	> 86 – 93	2	Good	Completed
3	≥ 80 – 86	18	Enough	Completed
4	< 80	0	Poor	Not Completed

Table 4 above indicates that in cycle I, the ability of Class V students at Public Elementary School Parak No. 11 Selayar Regency to perform underhand passing in volleyball falls into the "less" category with 0 students, the "sufficient" category with 18 students, the "good" category with 2 students, and the "excellent" category with 0 students. The studies indicated that students were able to complete cycle II, so there was no need for further action or to continue to the next cycle.

Discussion

Classroom action research conducted at Public Elementary School Parak No. 11 showed a significant increase in grade V students' ability to pass underfoot in volleyball. Based on learning outcome data in the initial conditions, it can be seen that most students are in the "less" category, with a total of 13 students out of a total of 22 students. This condition indicates that students' underfoot passing abilities are still low and require a learning approach that can improve these skills. This conclusion is in line with the findings of Palao et al. (2022), which state that basic volleyball skills in elementary school-aged children often require a progressive and varied learning approach to achieve optimal results.

The application of the distance variation approach in cycle I showed positive changes in student learning outcomes. The data shows that after the implementation of cycle I,

there were no more students in the "less" category, and all students had achieved completion with a minimum category of "sufficient." This increase indicates that the distance variation approach with distances of 2 meters, 3 meters, and 4 meters is effective in improving students' underfoot passing abilities. These findings support the research of Iserbyt et al. (2020), who found that simplifying tasks in volleyball skills learning in elementary schools can facilitate better mastery of basic skills.

Judging from the accuracy component, which is one of the assessment aspects in the rubric with a weighting of 0-30, there is an increase in students' ability to direct the ball precisely to the specified target. Before the implementation of the distance variation approach, many students had difficulty directing the ball well, but after being given training with progressive distance variations, students' accuracy abilities increased. Giatsis et al. (2019), in their research, also emphasized that accuracy in the forearm pass technique (underhand pass) is an important factor in the success of receiving the ball and can be improved through structured and systematic training.

The strength component in passing with an assessment weighting of 0-30 also showed positive developments after the implementation of the distance variation approach. After participating in learning with distance variations, students who initially passed with inadequate strength began to pass with better and more consistent strength. This conclusion is supported by the findings of Kim and Park (2021), who studied the effects of forearm alignment and hand position on passing accuracy in young volleyball players, where passing power was greatly influenced by correct technique and proper training.

The technical aspects in the assessment rubric with the largest weighting, namely 0-40, include hand position, body position, and balance, and they also experienced significant improvements. After learning with a distance variation approach, students who initially used an inappropriate body position while performing the underhand passing technique were able to improve their hand position, body position, and balance. Trajković et al. (2020), in their study, also found that the modified volleyball program had a positive effect on the development of basic skills, including underhand passing techniques in elementary school students.

The enthusiasm of students in participating in underhand passing learning with a distance variation approach was a supporting factor for the success of this study. Students showed high motivation and were active in the learning process. Wang et al. (2020) also revealed that modified game-based learning had a positive impact on volleyball skills and the enjoyment of elementary school students. This study indicates that a fun and varied approach can increase students' motivation and active participation in learning.

The improvement in underhanded passing learning outcomes is also inseparable from the systematic and progressive learning process. The application of distance variations starting from 2 meters, 3 meters, to 4 meters provides students with the opportunity to gradually adapt to increasing levels of difficulty. This approach is in accordance with the principle of progressive learning proposed by Drikos et al. (2020) on the effects of progressive learning models on skill development in young volleyball players.

Reflections carried out at the end of cycle I showed that although not yet optimal, learning underhand passing with a distance variation approach had reached the class completion threshold with an average score of 84.59. These results indicate that the approach applied has succeeded in helping students master the underhand passing technique well. Giménez-Egido et al. (2020), in their study, also found that the use of modified equipment had a positive effect on technical-tactical actions and physiological responses in young volleyball players.

Changes in learning outcome categories from initial conditions to cycle I showed a positive pattern of improvement. Students who were initially in the "less" category have shifted to the "sufficient" and "good" categories. The evidence shows that the distance variation approach is effective in improving students' underhand passing skills evenly. Laporta et al. (2021), in a systematic review of skill acquisition in volleyball, also emphasized that the right learning approach can facilitate effective skill mastery.

Improving students' underhand passing skills also has implications for their overall volleyball playing ability. Underhand passing, as one of the basic techniques in volleyball, is an important foundation in building a team's attack and defense. Raiola et al. (2022) emphasized the importance of volleyball skills in elementary schools from an educational perspective, where mastery of basic techniques such as underhand passing will impact the development of playing skills at a higher level.

The success of the distance variation approach in improving underhand passing skills in grade V students of Public Elementary School Parak No. 11, Selayar Regency, shows that this method can be an alternative solution in volleyball learning at the elementary school level, especially in island areas that have limited facilities and access to educational resources. Jarrett and Harvey (2020) also revealed that a game-based approach can be an effective solution in learning in remote and low-income schools, with various challenges and opportunities.

4. CONCLUSION

Based on the research and discussions, we can say that using the distance variation approach helps strengthen the underhand passing skills in volleyball for fifth-grade students in PJOK classes at Public Elementary School Parak No. 11. This improvement is shown by the study results: initially, 13 students were in the "less" category, 8 in the "enough" category, and 1 in the "good" category. After the first cycle, there were no students in the "less" category, 18 in the "enough" category, and 2 in the "good" category, with an average score of 84.59, meaning all students successfully learned underhand passing.

As a suggestion, the results of this study can be a reference for elementary school teachers in improving student learning outcomes. We suggest further research to expand the scope so that the results obtained can be generalized to schools.

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