

## Analysis of Underhand Volleyball Serve Ability

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### ABSTRACT

*This study aims to determine the ability and level of mastery of the underhand serve technique in volleyball among participants who were selected as the research sample. The underhand serve is one of the most important basic techniques in volleyball because it marks the beginning of every rally and influences the course of the game. The research method used was a quantitative descriptive method with a sample of 10 participants. The research instrument used an underhand serve skill assessment sheet that included several indicators, such as the initial stance, execution, and serve results. The data analysis technique was conducted using descriptive and percentage analysis to describe the respondents' level of ability. The results of the study showed that the participants' underhand serve ability varied from low to good categories, with the highest percentage falling into the moderate category. This indicates that improvement in basic underhand serve training is still needed in order to optimize the participants' abilities.*

**Keywords:** Volleyball, Underhand Serve, Basic Skills.

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### ARTICLE INFO

**Article History:**

Accepted :  
Approved :  
Available Online February 2026

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## INTRODUCTION

Physical education is a learning process that utilizes physical activities to develop students' abilities comprehensively, including physical, mental, and social aspects. Activities in physical education are not only aimed at improving physical fitness but also at building character, discipline, and sportsmanship in everyday life. Effective learning provides meaningful movement experiences for students, thereby improving the quality of human resources (Faturrohman & Hadi, 2024).

Sports are an important part of human life because they can improve both physical and mental health. Sports activities also play a role in fostering teamwork, responsibility, and social interaction skills. In the educational context, sports serve as a medium to channel energy while optimally developing students' potential (Fernando, 2022).

Volleyball is one of the most popular sports and is widely taught in schools. The game involves two opposing teams with the objective of dropping the ball into the opponent's court over the net. Volleyball requires good movement coordination and mastery of basic techniques

in order for the game to be played effectively and efficiently (Mulyanto et al., 2024).

Mastery of basic techniques in volleyball is very important for students because these techniques form the main foundation of the game. The basic techniques include passing, serving, smashing, and blocking, all of which must be mastered gradually. Without good mastery of basic techniques, students will experience difficulties in participating in the game effectively (Herlambang et al., 2024).

The underhand serve is one of the basic techniques used to start a volleyball game. This technique is performed by hitting the ball from below to begin the rally. The underhand serve has an important role because, in addition to initiating the game, it can also be used as a strategy to attack opponents through accurate ball placement (Halawa et al., 2022).

The ability to perform an underhand serve is not only determined by physical strength but is also influenced by proper technique and continuous practice. Many students still experience difficulties in performing the underhand serve, such as errors in the starting position, arm swing, and ball direction. This indicates that underhand serve skills still need to be improved through appropriate learning methods (Widiyatmoko & Kushartanti, 2020).

The varying abilities of students in performing the underhand serve indicate the need for analysis to determine their level of mastery of the technique. This analysis can be conducted through descriptive research using data obtained from students' skill test results. The results of the study are expected to provide a clear description of students' underhand serve abilities and serve as a basis for improving their volleyball skills (Aulia, 2020).

## **METHODS**

### **Research Design**

This study used a quantitative descriptive method. The quantitative descriptive method aims to systematically, factually, and accurately describe the phenomenon being studied in the form of numerical data. This approach was used to determine the level of underhand serve technique ability in volleyball without providing any special treatment to the research subjects.

### **Research Population**

The population in this study consisted of all participants involved in volleyball learning activities. Population refers to the entire research subjects who possess certain characteristics in accordance with the research objectives. In this study, the population included participants

who had received instruction in basic volleyball techniques, especially the underhand serve.

### **Research Sample**

The sample in this study consisted of 10 participants. The sampling technique used was purposive sampling, which is a sampling technique based on certain considerations. The criteria for the sample in this study were participants who had attended underhand serve learning sessions and were willing to participate in the skill test.

### **Research Instrument**

The instrument used in this study was an underhand volleyball serve skill assessment sheet. The assessment was conducted based on three main indicators, namely:

1. Initial Stance, This included foot position, body posture, and ball grip.
2. Movement Execution, This included arm swing, ball contact, and movement coordination.
3. Final Result, This included ball direction, target accuracy, and success in passing over the net.

Each indicator was assessed using a 1–4 rating scale, with the following criteria: 4 = Very Good, 3 = Good, 2 = Fair, and 1 = Poor. This instrument was used to objectively measure participants' abilities based on their performance when performing the underhand serve.

### **Data Collection Techniques**

The data collection techniques in this study were conducted through direct observation and skill tests. Direct observation involved observing the participants' execution of the underhand serve technique, while the skill test was used to assess participants' abilities based on predetermined indicators. The data obtained were recorded in assessment sheets and then processed for further analysis.

### **Data Analysis Techniques**

The data analysis technique used in this study was descriptive statistical analysis. The collected data were analyzed to determine the mean score, maximum score, minimum score, and score range. In addition, percentage analysis was used to determine the participants' ability levels. The formula used was:

$$P = \frac{F}{N} \times 100\%$$

Description:

P = Percentage

F = Frequency

N = Number of Samples

The results of the analysis were then presented in the form of frequency distribution tables and percentages to make them easier to understand.

## **RESULTS AND DISCUSSION**

### ***Results***

The research results were obtained through an underhand serve skill test conducted on 10 participants. The assessment was based on three aspects, namely the initial stance, movement execution, and final result. The maximum possible score was 36, while the minimum score was 9.

**Table 1.** Underhand Serve Test Results.

<i>No</i>	<i>Sample</i>	<i>Score</i>	<i>Percentage (%)</i>	<i>Category</i>
1	S1	30	83%	Very Good
2	S2	28	78%	Good
3	S3	26	72%	Good
4	S4	24	67%	Good
5	S5	22	61%	Good
6	S6	21	58%	Fair
7	S7	20	56%	Fair
8	S8	18	50%	Fair
9	S9	16	44%	Fair
10	S10	14	39%	Poor

### **Descriptive Analysis**

The results of the descriptive analysis showed that the highest score obtained by the participants was 30, while the lowest score was 14. The mean score of the participants' underhand serve ability was 21.9 out of a maximum score of 36. When converted into percentage form, the average percentage was 60.8%. Based on these results, it can be concluded that, in general, the participants' underhand serve ability was in the fair category. This indicates that the participants already possessed basic skills but still required improvement to achieve a better category.

## **Percentage Analysis**

The percentage analysis was conducted to determine the distribution of participants' ability levels based on the assessment categories.

**Table 2.** Frequency Distribution

<i>Category</i>	<i>Frequency</i>	<i>Percentage</i>
Very Good	1	10%
Good	4	40%
Fair	4	40%
Poor	1	10%
Total	10	100%

The results of the percentage analysis showed that most participants were in the good and fair categories, each with a percentage of 40%. Meanwhile, the very good and poor categories each accounted for 10%.

## **Discussion**

The underhand serve ability in volleyball is a very important basic skill because it marks the beginning of every game. The results of the study showed that most participants were in the good and fair categories. Based on the test results, 1 participant (10%) was categorized as very good, 4 participants (40%) as good, 4 participants (40%) as fair, and 1 participant (10%) as poor. The average participant score was 21.9 or 60.8%, indicating that, in general, the participants' underhand serve ability was in the fair category. These data indicate that most participants already had a basic understanding of the underhand serve technique, but their abilities still needed improvement to become more optimal.

The participant with the highest score obtained 30 points with a percentage of 83% and was categorized as very good. This indicates that the participant was able to perform the underhand serve technique with good movement coordination, starting from the initial stance, movement execution, to the final result of the serve. Meanwhile, the participant with the lowest score obtained 14 points with a percentage of 39%, which was categorized as poor. The low

result was caused by errors in the initial position, arm swing, and accuracy of ball direction during the serve.

The results of this study are in line with the opinion of Rohman et al., who stated that mastery of basic volleyball techniques, especially the underhand serve, requires continuous practice in order for participants' skills to develop optimally. The technical errors found in this study also indicate that participants still need more directed instruction and continuous training.

The research findings also showed that learning methods have an influence on students' skills. Participants who achieved good and very good categories tended to understand instructions and perform movements with more accurate coordination. This indicates that the use of appropriate learning strategies can help improve participants' motor skills, especially in the underhand serve technique in volleyball.

The participants' abilities, which were still dominated by the fair category, indicate the need for more regular and structured training. Through continuous practice, participants are expected to improve serve accuracy, movement coordination, and success in passing the ball over the net so that their underhand serve ability can develop into a better category.

## **CONCLUSION**

The underhand serve technique ability in volleyball among the participants who became the research sample showed varied results, with an average score of 60.8%, which falls into the fair category. The results of the descriptive analysis indicated differences in ability levels among participants, while the percentage analysis showed that most participants were in the good and fair categories, each with a percentage of 40%. These findings indicate that the participants already possessed basic underhand serve skills; however, further improvement through structured and continuous training is still needed in order for their abilities to develop optimally.

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