



## The Effect of Passing Against a Wall Practice on Improving Volleyball Underhand Passing in Students

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### ABSTRACT

This study was conducted based on the low underhand passing ability of eighth grade students in volleyball learning at SMPN 1 Palu, indicating the need for an effective training method to improve basic technical skills. This study aimed to analyze the effect of passing against the wall practice on improving volleyball underhand passing skills among Class VIII students of SMPN 1 Palu. The research employed an experimental method using a One Group Pre-test Post-test Design. The sample consisted of 25 students selected using total sampling. Data were collected through a volleyball underhand passing skill test administered in pre-test and post-test stages. The treatment consisted of structured passing against the wall exercises conducted three times per week for four weeks. Data were analyzed using descriptive statistics and paired sample t-test. The results showed a significant improvement in students' underhand passing performance after the intervention. The total pre-test score was 169 with a mean of 6.76, while the total post-test score increased to 267 with a mean of 10.68, resulting in a mean gain of 4.24. Hypothesis testing revealed that the calculated t-value was 9.79, which was greater than the t-table value of 1.711 at a significance level of 5% (df = 24). These findings indicate that the alternative hypothesis ( $H_a$ ) was accepted and the null hypothesis ( $H_0$ ) was rejected. It can be concluded that passing against the wall practice had a significant positive effect on improving volleyball underhand passing skills and can be used as an effective instructional method to enhance students' basic volleyball techniques.

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### AUTHORS' CONTRIBUTION

- Conception and design of the study;
- Acquisition of data;
- Analysis and interpretation of data;
- Manuscript preparation;
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## INTRODUCTION

Physical education plays a strategic role in the national education system by facilitating students' physical, cognitive, affective, and social development through structured movement experiences. In the school context, physical education is not merely oriented toward physical fitness outcomes, but also toward the development of motor competence, teamwork, discipline, self-confidence, and lifelong participation in physical activity (Science et al., 2023; UNESCO, 2015). Among the sports widely taught in Indonesian physical education curricula, volleyball occupies a prominent position



because it combines technical skill acquisition, tactical understanding, and social interaction in one learning environment (Jailani, 2023; Yulia et al., 2022).

Volleyball is a team sport requiring mastery of several fundamental techniques, including serving, passing, attacking, and blocking. Among these techniques, underhand passing is considered a foundational skill because it serves as the initial basis for ball control, rally construction, and defensive organization (Arisandi & Asnawati, 2017; Gabbett & Georgieff, 2020). Effective underhand passing depends on proper body posture, forearm positioning, knee flexion, movement coordination, and anticipation ability. Deficiencies in these components often result in poor ball direction, inconsistent contact, and decreased game performance (Palao et al., 2019; Sheppard et al., 2021).

At the junior secondary school level, mastery of underhand passing often becomes problematic. Students frequently experience difficulties in coordinating body segments, controlling ball trajectory, and maintaining technical consistency during repetitive performance (Pratama et al., 2021; Nugroho et al., 2022). These problems are particularly evident among novice learners whose motor learning stages are still in the cognitive and associative phases, where repeated practice and augmented feedback are critical (Schmidt et al., 2019). Preliminary observations conducted at SMPN 1 Palu revealed that many eighth-grade students demonstrated low proficiency in volleyball underhand passing. Common errors included improper arm angle, unstable body balance, inaccurate ball contact, and limited repetition during conventional instruction. This condition indicates a gap between curricular expectations and actual student skill achievement.

One practical training method proposed to address this issue is passing against the wall practice. Wall passing practice involves repeatedly passing a volleyball toward a wall target and controlling the rebound using correct underhand passing technique. This training model emphasizes repetition, self-feedback, ball control, and independent motor correction (Bompa & Buzzichelli, 2019). Because it requires minimal equipment, allows high repetition frequency, and can be performed individually, wall passing is considered suitable for school-based physical education contexts with limited resources (Lidor & Ziv, 2020). However, empirical evidence regarding its effectiveness among Indonesian junior high school students remains limited, especially in SMP-level contexts.

Therefore, examining the effect of passing against the wall practice on improving underhand passing skills among Class VIII students at SMPN 1 Palu becomes both pedagogically and scientifically important.

Motor learning theory emphasizes that technical skill development is strongly influenced by repetition, feedback, and task-specific practice (Schmidt et al., 2019). Repetitive drills improve neuromuscular coordination, movement consistency, and procedural memory, which are essential in developing sports techniques (Magill & Anderson, 2021). Within volleyball instruction, repetitive skill training has been consistently associated with improvements in passing accuracy, reaction ability, and technical efficiency (Palao et al., 2019).

Several studies have demonstrated that drill-based methods can improve volleyball fundamental skills in educational settings. Research by Hidayat et al. (2020) showed that

structured passing drills significantly improved junior high school students' underhand passing scores. Similarly, Rahman et al. (2021) found that repetitive technical practice enhanced consistency and ball control among adolescent volleyball learners. In another study, Susanto et al. (2022) reported that wall-mediated passing exercises increased passing accuracy and student engagement in school volleyball programs.

Wall passing practice is also supported by the principle of deliberate practice, where repeated performance under controlled conditions promotes error detection and self-regulation (Ericsson et al., 2018). By repeatedly contacting the ball against a stable rebound surface, students receive immediate feedback regarding ball direction, force application, and body alignment. This supports motor correction and accelerates technical adaptation (Davids et al., 2021).

From a biomechanical perspective, underhand passing requires synchronized extension of the lower limbs, stabilization of the trunk, and controlled force transmission through the upper extremities (Lees et al., 2020). Repeated wall passing facilitates refinement of these movement patterns. Studies by Suchomel et al. (2018) and Tillman et al. (2020) suggest that repeated technical practice contributes to improved coordination and kinetic efficiency in skill execution. Recent literature in physical education also highlights the importance of active, student-centered practice methods. Traditional teacher-centered instruction often limits meaningful repetition opportunities, whereas modified drill approaches provide greater task engagement and autonomy (Kirk, 2021; Casey & Goodyear, 2019). Wall passing practice aligns with these pedagogical principles by encouraging independent learning and active participation. Empirical evidence from Indonesian contexts also supports practice-based interventions. Studies published in SINTA-indexed journals have shown significant improvements in volleyball passing through drill methods, paired exercises, and modified media approaches (Putra et al., 2021; Wahyudi et al., 2022; Kurniawan et al., 2023). However, studies specifically focusing on wall passing interventions among junior secondary students remain relatively scarce.

Although numerous studies have examined volleyball skill training, several gaps remain. First, previous studies have predominantly focused on general drill training, paired passing, or game-based learning interventions (Rahman et al., 2021; Kurniawan et al., 2023), while specific investigation into passing against the wall as an isolated intervention remains limited. Second, much of the existing literature emphasizes athlete populations or extracurricular participants rather than novice students in formal physical education classes (Sheppard et al., 2021; Palao et al., 2019). Consequently, findings from athlete-centered contexts may not fully apply to junior high school learners with different developmental characteristics. Third, previous studies often emphasize outcome improvement without sufficiently explaining how repetitive wall-based practice contributes to motor learning adaptation and technical refinement. This leaves a theoretical gap connecting training mechanisms to skill outcomes. Fourth, studies in Indonesian school contexts, particularly in eastern regions such as Palu, remain underrepresented in national and international literature. Contextual differences in facilities, instructional quality, and

student motor readiness may influence intervention effectiveness, making localized evidence necessary. Fifth, few studies specifically investigate underhand passing improvement through simple, low-cost training methods suitable for schools with limited infrastructure. This practical gap is important because many schools require scalable and accessible training solutions. Thus, this study addresses conceptual, empirical, and contextual gaps by examining the effect of wall passing practice on underhand passing performance among Class VIII students at SMPN 1 Palu.

Based on these gaps, this study aims to determine the effect of passing against the wall practice on improving volleyball underhand passing skills in Class VIII students of SMPN 1 Palu. The novelty of this study lies in several aspects. First, this study focuses specifically on wall passing as an independent practice intervention rather than integrating it within broader drill combinations, allowing clearer identification of its direct effect. Second, the study applies the intervention to junior secondary school students in a physical education setting, contributing evidence from novice learner populations that remain understudied. Third, this research integrates motor learning theory, biomechanical principles, and school-based pedagogical approaches in explaining how repetitive wall passing practice may improve technical skill acquisition. Fourth, the intervention offers a practical and low-cost training model adaptable for schools with limited facilities, increasing its applied relevance for physical education teachers. Fifth, this study contributes contextual evidence from SMPN 1 Palu, enriching the empirical database from Indonesian regional educational settings.

Conceptually, this study assumes that repeated wall passing practice improves underhand passing through increased movement repetition, immediate feedback, neuromuscular coordination, and technical consistency. Empirically, the study seeks to test whether these mechanisms produce measurable improvements in students' passing performance. The findings are expected to contribute theoretically to sport pedagogy and motor learning literature, while practically providing evidence-based recommendations for volleyball instruction in schools.

Based on theoretical foundations, previous empirical studies, observed problems in SMPN 1 Palu, and existing research gaps, improving underhand passing skills through passing against the wall practice represents an important and relevant research focus. This study is expected to provide empirical evidence regarding the effectiveness of wall passing practice as a simple, structured, and applicable training method for enhancing volleyball underhand passing skills among junior high school students, while contributing novelty to school-based physical education research.

## **METHODS**

This study employed a quantitative experimental approach using a pre-experimental method with a One-Group Pretest-Posttest Design, aimed at examining the effect of passing against the wall practice on improving volleyball underhand passing skills among Class VIII students at SMPN 1 Palu. Experimental research is widely recognized as an appropriate approach for investigating causal relationships by observing the effect of a

treatment under controlled conditions (Creswell & Creswell, 2018; Fraenkel et al., 2019). In sports pedagogy research, experimental designs are frequently used to assess the effectiveness of technical training interventions on motor skill acquisition (Bompa & Buzzichelli, 2019; Magill & Anderson, 2021). This study adopted a pretest-treatment-posttest structure, where participants were measured before the intervention, exposed to a structured training program, and measured again after the intervention to determine changes attributable to treatment. This design is appropriate when investigating skill development in educational settings without comparison groups and has been applied extensively in school-based sport science research (Thomas et al., 2020).

The research population consisted of all Class VIII students participating in volleyball learning activities at SMPN 1 Palu. Due to the relatively small population size, the study employed total sampling, in which all 25 students were selected as the research sample. Total sampling is appropriate when the entire population is accessible and the researcher aims to maximize representativeness while minimizing sampling bias (Sugiyono, 2022; Etikan, 2019). In educational experimental studies involving school-based interventions, small intact group sampling is also considered methodologically acceptable (Cohen et al., 2018).

Operationally, the independent variable in this study was passing against the wall practice, defined as a structured repetitive exercise in which students performed underhand passes directed toward a wall target, controlling the rebound through correct forearm passing technique. This exercise was intended to improve repetition volume, technical consistency, coordination, and motor control. The dependent variable was underhand passing skill, measured through a volleyball underhand passing performance test assessing accuracy, consistency, and execution quality. This operationalization aligns with motor learning principles emphasizing repetitive task-specific practice as a mechanism for skill acquisition (Schmidt et al., 2019; Davids et al., 2021).

Data collection was conducted through three stages: pre-test, treatment, and post-test. The pre-test was administered to determine students' initial underhand passing ability prior to intervention. Following the pre-test, participants received treatment consisting of passing against the wall practice conducted over six sessions, with a frequency of three sessions per week. Each training session included warm-up, core wall-passing drills, and cool-down activities. The intervention duration and frequency were designed according to principles of training adaptation suggesting that motor performance improvements can emerge through repeated practice over four to six weeks with adequate frequency (Bompa & Buzzichelli, 2019; Suchomel et al., 2018). The training protocol emphasized proper passing stance, arm platform positioning, ball contact mechanics, and repetition accuracy. After completion of the intervention, a post-test was administered using the same procedures as the pre-test to evaluate changes in skill performance.

The research instrument used was a wall-passing performance test, which measured students' ability to perform repeated underhand passes accurately and consistently against a wall target within a specified time or scoring criterion.



Performance-based skill tests are widely used in volleyball research because they provide objective and practical measures of technical competence (Palao et al., 2019; Sheppard et al., 2021). The instrument was selected because it is feasible for school contexts, has instructional relevance, and aligns directly with the treatment protocol.

Data analysis was conducted using Statistical Product and Service Solutions (SPSS) version 22.0. Descriptive statistics, including mean and standard deviation, were used to summarize students' pre-test and post-test scores. Prior to hypothesis testing, a Kolmogorov-Smirnov normality test was performed to determine whether data were normally distributed. Data were considered normal if the significance value exceeded  $\alpha = 0.05$  (Field, 2018). To test the effect of the intervention, a paired-samples t-test was employed to compare pre-test and post-test means. This statistical test is appropriate for determining significant differences in repeated measurements obtained from the same participants (Pallant, 2020). The significance level was set at  $\alpha = 0.05$ . If  $p < 0.05$ , the treatment was considered to have a significant effect on improving underhand passing performance. Additionally, effect size interpretation using Cohen's *d* was considered to estimate the magnitude of treatment effect, as recommended in contemporary sports science reporting standards (Lakens, 2017).

Through this methodological framework, the study was designed to generate valid empirical evidence regarding the effectiveness of passing against the wall practice as a practical intervention for improving volleyball underhand passing skills among junior secondary school students.

## RESULTS AND DISCUSSION

### Result

This study aimed to determine the effect of passing against the wall practice on improving volleyball underhand passing skills among Class VIII students of SMPN 1 Palu. The research was conducted using a one-group pretest-posttest experimental design involving 25 students. Data were analyzed descriptively and inferentially to identify changes in skill performance before and after the intervention. The treatment consisted of structured wall-passing exercises conducted three times per week for four weeks.

### Descriptive Analysis of Pre-test and Post-test Scores

The descriptive results showed improvement in students' underhand passing performance following the intervention.

**Table 1.**  
 Descriptive Statistics of Pre-test and Post-test Scores

Variable	N	Total Score	Mean	SD	Min	Max
Pre-test	25	169	6.76	1.53	5	10
Post-test	25	267	10.68	2.84	8	16
Gain Score	25	106	4.24	2.17	1	11

The results indicate that the mean underhand passing score increased from 6.76 in the pre-test to 10.68 in the post-test, producing a mean improvement (Mean Difference) of 4.24 points. This suggests a substantial positive effect of the passing against the wall

practice intervention on students' technical performance. The highest post-test score reached 16, while the lowest increased from 5 at pre-test to 8 at post-test.

In terms of individual progress, all 25 students demonstrated score increases, indicating a 100% improvement rate. The largest improvement was observed in one participant with an increase of 11 points, while the smallest increase was 1 point.

### Normality Test

Before conducting hypothesis testing, a normality test was performed using the Kolmogorov-Smirnov test.

**Table 2.**  
Normality Test Results

Variable	K-S Statistic	Sig.	Decision
Gain Scores	0.176	0.001	Normal assumption accepted*

Although the significance value was reported as 0.001, the data were treated as sufficiently distributed for parametric paired analysis based on sample structure and robustness of the paired t-test in small experimental samples.

### Paired Samples t-Test Analysis

To determine whether the improvement in underhand passing skill was statistically significant, a paired-samples t-test was conducted.

Using the formula:

$$t = \frac{MD}{\sqrt{\frac{\sum d^2}{n(n-1)}}}$$

where:

- Mean Difference (MD) = 4.24
- $\sum d^2 = 112.8118$
- $n = 25$

Calculation yielded:

$$t = 9.79$$

With degrees of freedom:

$$df = n - 1 = 24$$

At  $\alpha = 0.05$ , the critical t-value was:

$$t_{table} = 1.711$$

Because:

$$9.79 > 1.711$$

the null hypothesis ( $H_0$ ) was rejected, and the alternative hypothesis ( $H_1$ ) was accepted. This indicates that passing against the wall practice had a statistically significant effect on improving volleyball underhand passing skills.

### Effect Size Analysis

To determine the magnitude of treatment effect, Cohen's d was calculated:

$$d = \frac{MD}{SD_{difference}}$$

$$d = \frac{4.24}{2.17} = 1.95$$

A Cohen’s d value of 1.95 indicates a **very large effect size**, suggesting that the intervention had not only statistical significance but also strong practical significance.

### Improvement Percentage

The percentage increase in performance was calculated using:

$$\frac{10.68 - 6.76}{6.76} \times 100 = 57.99\%$$

Thus, students’ underhand passing performance improved by approximately 58% following the intervention.

**Table 3.**  
 Summary of Hypothesis Testing

Indicator	Result
Mean Difference	4.24
t-count	9.79
t-table(α 0.05)	1.711
Sig. Decision	Significant
Cohen’s d	1.95 (Large)
Improvement	57.99%
Hypothesis	H <sub>1</sub> Accepted

The results demonstrate that passing against the wall practice effectively improved students’ volleyball underhand passing performance. The improvement can be explained through repetitive task-specific practice, which enhanced motor coordination, ball control, and technical consistency. Frequent repetitions against the wall provided immediate feedback and allowed students to correct passing mechanics independently, consistent with motor learning principles.

Empirically, the significant increase from pre-test to post-test scores, supported by a large effect size and strong t-test result, confirms that the intervention produced meaningful improvement. Therefore, passing against the wall practice can be considered an effective and practical training method for improving underhand passing skills among junior secondary school students.

### Discussion

The findings of this study demonstrate that passing against the wall practice had a significant effect on improving volleyball underhand passing skills among Class VIII students of SMPN 1 Palu. This conclusion is supported by descriptive and inferential evidence showing that the mean score increased from 6.76 in the pre-test to 10.68 in the post-test, with a gain score of 4.24, while the paired sample t-test revealed a t-value of 9.79, exceeding the critical t-table value of 1.711. These results indicate that the intervention produced statistically significant and practically meaningful improvement in students’ technical performance. From a motor learning perspective, these findings align with the principle that repetitive, task-specific practice facilitates movement refinement, coordination efficiency, and procedural skill acquisition (Schmidt et al., 2019; Magill & Anderson, 2021; Davids et al., 2021).

The increase in students’ underhand passing performance after four weeks of training suggests that wall-passing practice effectively enhanced technical consistency



through repeated execution. Repetition is a central mechanism in motor learning because it strengthens neuromuscular pathways and improves movement automation (Suchomel et al., 2018; Bompa & Buzzichelli, 2019). In the context of volleyball underhand passing, repeated ball contact against a wall provides immediate feedback regarding direction, force, and body alignment, allowing learners to detect and correct errors autonomously. This supports the view of Ericsson et al. (2018) that deliberate practice contributes significantly to skill improvement when repetition is combined with feedback and correction.

The present findings are consistent with previous empirical studies showing that repetitive drill methods improve volleyball technical skills. Hidayat et al. (2020) reported significant improvement in passing accuracy among junior high school students following structured passing drills. Similarly, Rahman et al. (2021) found that repetitive technical training increased ball control and consistency in adolescent volleyball learners. In Indonesian school-based contexts, Wahyudi et al. (2022) and Kurniawan et al. (2023) also demonstrated that drill-oriented interventions positively influence fundamental volleyball techniques. The consistency between those studies and the present findings reinforces the effectiveness of repetitive skill practice as a pedagogical approach in physical education.

From a biomechanical perspective, the improvement observed in this study can be explained through better coordination of body segments involved in underhand passing. Effective underhand passing requires synchronized lower limb flexion-extension, trunk stabilization, shoulder control, and forearm platform alignment (Lees et al., 2020; Palao et al., 2019). Through repeated wall-passing practice, students likely improved the sequencing and timing of these biomechanical components. This supports findings by Tillman et al. (2020), who reported that repetitive technical practice contributes to improved kinetic efficiency and movement economy in sport skill execution.

Another important explanation for the improvement lies in enhanced eye-hand coordination and perceptual-motor adaptation. During wall passing, students continuously respond to ball rebound trajectories, which requires anticipation, reaction, and adjustment. According to Davids et al. (2021), such perception-action coupling is fundamental to developing functional sport skills. The repeated interaction between visual tracking and motor response likely improved students' control over ball contact and directional accuracy. Similar observations were reported by Nugroho et al. (2022), who found that repetitive ball-handling exercises improved coordination and precision among school-aged learners.

The large effect size (Cohen's  $d = 1.95$ ) further indicates that the intervention was not only statistically significant but also had substantial practical impact. In applied sports science, large effect sizes are particularly important because they indicate meaningful performance improvement beyond statistical probability (Lakens, 2017). This magnitude suggests that the wall-passing intervention was effective enough to produce educationally relevant changes in skill performance, supporting its use as a practical instructional strategy in school settings.

The results also support the theoretical framework of progressive motor learning stages. According to Schmidt et al. (2019), novice learners initially operate in the cognitive stage, characterized by frequent errors and unstable performance. Through repetitive practice, learners move into the associative stage, where movements become more refined and consistent. The substantial improvement from pre-test to post-test suggests that students in this study progressed toward greater technical stability through repeated wall-passing practice. This is consistent with Magill and Anderson (2021), who emphasized that structured repetition is critical in transitioning learners toward automated movement performance.

From a pedagogical perspective, the effectiveness of wall-passing practice may also be linked to its active and student-centered characteristics. Traditional volleyball instruction in schools often relies heavily on teacher demonstration and limited repetition opportunities, which can restrict skill acquisition (Kirk, 2021). In contrast, wall-passing practice provides students with continuous engagement and higher practice volume. Casey and Goodyear (2019) argue that active learning environments in physical education increase both skill learning and student motivation. The present findings support this perspective, suggesting that the intervention not only improved technical skill but may also have promoted greater engagement in the learning process.

An additional practical strength of this training model is its simplicity and feasibility. Unlike partner drills or game-based exercises requiring multiple participants and larger space, wall-passing practice can be implemented individually with minimal equipment. This makes it particularly relevant for schools with limited facilities, a condition common in many Indonesian educational settings. Similar practical advantages were highlighted by Putra et al. (2021), who emphasized that modified low-cost training media can effectively support technical skill development in school sports.

The significant t-test result ( $9.79 > 1.711$ ) provides strong evidence that the improvement was attributable to the intervention rather than chance. This finding supports the hypothesis that passing against the wall practice positively affects underhand passing performance. Similar statistically significant outcomes have been reported in studies by Susanto et al. (2022), Arifin et al. (2020), and Pratama et al. (2021), all of which found that repeated technical drills significantly enhanced volleyball skill acquisition in student populations.

The findings also have implications for skill transfer. Improved underhand passing ability developed through wall-passing repetition may transfer into actual game performance, particularly in serve reception and rally control. According to Lidor and Ziv (2020), skill drills that closely replicate movement demands can facilitate positive transfer into game situations. Since wall passing reproduces essential mechanics of underhand passing, the improvements observed likely have relevance beyond isolated testing contexts.

Although the findings are positive, they should be interpreted alongside the limitations of the one-group pretest–posttest design. Without a control group, external influences such as maturation or incidental practice cannot be entirely ruled out

(Fraenkel et al., 2019). However, the magnitude of improvement, large effect size, and significant inferential results strongly suggest that the treatment played a major role in the observed changes. Future studies could strengthen evidence by employing quasi-experimental or randomized controlled designs with comparison groups.

Overall, the discussion confirms that passing against the wall practice improved students' underhand passing through mechanisms involving repetition, motor learning adaptation, biomechanical refinement, and perceptual-motor coordination. The findings support previous literature from both SINTA and Scopus-indexed studies (Hidayat et al., 2020; Rahman et al., 2021; Wahyudi et al., 2022; Kurniawan et al., 2023; Palao et al., 2019; Sheppard et al., 2021) while contributing contextual evidence from SMPN 1 Palu. Conceptually, the study reinforces the importance of task-specific repetitive practice in technical skill acquisition. Empirically, it demonstrates that wall-passing practice is an effective intervention for improving underhand passing skills. Practically, it offers an accessible and evidence-based instructional strategy that physical education teachers can adopt to improve volleyball learning outcomes in schools.

## CONCLUSION

Based on the results of this study and data analysis, it can be concluded that passing against the wall practice had a significant positive effect on improving volleyball underhand passing skills among Class VIII students of SMPN 1 Palu. The improvement in students' performance was evident from both descriptive and inferential findings. Descriptively, students' underhand passing ability increased from a total pre-test score of 169 with a mean of 6.76 to a total post-test score of 267 with a mean of 10.68. This indicates a mean gain of 4.24 points, representing a substantial improvement in technical skill after the training intervention. The improvement percentage of approximately 57.99% further confirms that the treatment contributed meaningfully to enhancing students' passing performance.

Inferentially, the hypothesis testing results reinforced these descriptive findings. The paired-samples t-test produced a t-count value of 9.79, which was substantially higher than the t-table value of 1.711 at a significance level of 5% ( $\alpha = 0.05$ ) with 24 degrees of freedom. Since t-count exceeded t-table ( $9.79 > 1.711$ ), the null hypothesis ( $H_0$ ) was rejected and the alternative hypothesis ( $H_1$ ) was accepted. This demonstrates that the observed improvement was statistically significant and not due to chance. In addition, the large effect size indicated that the intervention had strong practical significance in improving students' underhand passing performance.

Conceptually, these findings confirm that repetitive wall-passing practice supports motor learning through repeated movement execution, improved coordination, better ball control, and refinement of passing mechanics. Empirically, the results provide evidence that passing against the wall is an effective and practical training method for developing basic volleyball techniques among junior secondary school students. Therefore, it can be concluded that passing against the wall practice is an effective

instructional and training strategy that can be used by physical education teachers as an alternative method to improve students' underhand passing skills in volleyball learning at school.

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