COMPETITOR:
JURNAL PENDIDIKAN KEPELATIHAN OLAHRAGA
e-ISSN: 2657-0734 & p-ISSN: 2085-5389 ‖ Volume 18, Number 2, 2026 ‖ P.3445-3457

# Implementation of the Reciprocal Teaching Method to Improve Underhand Volleyball Serve Learning Outcomes

**Akhmad Reza Maulana[1A-E*], Syamsul Arifin[2B-D], Busriansyah[3B-D], Wawan Setiawan[4B-D], Khairul Muis[5B-D], Santoso[6B-D]**

[1,2] Universitas Lambung Mangkurat, Kalimantan Selatan, Indonesia
[3,4,5,6] SMA Negeri 2 Martapura, Kalimantan Selatan, Indonesia

rzamaulana1234@gmail.com[1*], syamsul_arifin@ulm.ac.id[2], busriansyah8@gmail.com[3], wawansetiwan2472015@gmail.com[4], khairulmuis2974@gmail.com[5], santoso09@guru.sma.belajar.id[6]

## ABSTRACT

Physical Education, Sports, and Health (PJOK) learning requires innovative instructional approaches that encourage active student participation and improve learning outcomes. However, the mastery of underhand volleyball serving among students often remains unsatisfactory due to teacher-centered learning, limited feedback, and low student engagement during practice activities. This study aimed to describe the implementation of the reciprocal teaching method and examine its effectiveness in improving underhand volleyball serve learning outcomes among Grade XI-2 students at State Senior High School 2 Martapura. This research employed a Classroom Action Research (CAR) design conducted in two cycles involving 35 students as research subjects. Data were collected through underhand serve skill tests and classroom observation sheets. The obtained data were analyzed using descriptive quantitative techniques to determine improvements in learning achievement and classical learning completeness. The findings revealed a consistent improvement in students' underhand serving performance throughout the intervention. Classical learning completeness increased from 42.86% in the pre-cycle stage to 62.86% in Cycle I and further improved to 88.57% in Cycle II, exceeding the predetermined success criterion of ≥80%. In addition, the average class score increased substantially from 59.74 in the pre-cycle to 78.09 at the end of Cycle II. Observation results also indicated greater student participation, collaboration, responsibility, and engagement during learning activities. In conclusion, the reciprocal teaching method effectively improves underhand volleyball serve learning outcomes and promotes active student involvement in PJOK learning. The role-switching mechanism between doer and observer, supported by structured criteria sheets, provides meaningful feedback that enhances both technical skill mastery and collaborative learning experiences.

**ARTICLE HISTORY**
Received: 2026/05/10
Accepted: 2026/05/15
Published: 2026/05/25

**KEYWORDS**
Reciprocal Teaching Method;
Underhand Volleyball Serve;
Learning Outcomes;
Physical Education;
Classroom Action Research.

**AUTHORS' CONTRIBUTION**
A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

**Cites this Article** : Maulana, A.R.; Arifin, S.; Busriansyah, B.; Setiawan, W.; Muis, K.; Santoso, S. (2026). Implementation of the Reciprocal Teaching Method to Improve Underhand Volleyball Serve Learning Outcomes. **Competitor: Jurnal Pendidikan Kepelatihan Olahraga**. 18 ( 2 ), p.3445-3457

## INTRODUCTION

Physical Education, Sports, and Health (PJOK) constitute an integral component of the educational process aimed at fostering students' physical fitness, motor

competence, cognitive development, emotional stability, social skills, and healthy lifestyles through structured physical activities (Naibaho, 2025). In the context of the Indonesian Merdeka Curriculum, learning activities are expected to be student-centered, interactive, collaborative, and capable of promoting active participation. Consequently, physical education teachers are challenged to employ innovative instructional approaches that facilitate meaningful learning experiences and optimize students' learning outcomes.

One of the essential learning materials in physical education is volleyball. Volleyball is a popular team sport that involves two teams of six players separated by a net, where the objective is to direct the ball into the opponent's court while preventing it from landing in one's own area (Budi, 2021). Beyond developing physical fitness and motor skills, volleyball contributes significantly to character development, teamwork, discipline, responsibility, and sportsmanship among students (Roisuddin et al., 2023). Therefore, volleyball instruction occupies an important position within the secondary school physical education curriculum.

Mastery of basic volleyball techniques is fundamental for successful participation in the game. These techniques include serving, passing, setting, smashing, and blocking. Among them, the underhand serve is generally introduced first because it is relatively easier to perform and serves as the starting point of game play. Despite its fundamental nature, many students continue to encounter difficulties in mastering the underhand serve technique. Previous studies have reported that inadequate mastery of basic volleyball skills remains a persistent issue in school-based physical education programs (Faturohman & Hadi, 2024; Sani et al., 2023).

Preliminary observations conducted in Grade XI-2 students at State Senior High School 2 Martapura revealed unsatisfactory learning outcomes in underhand volleyball serving. Of the 35 students participating in the lesson, only 16 students (45.71%) achieved the Minimum Mastery Criterion (KKM), whereas 19 students (54.29%) failed to meet the required standard. These findings are consistent with the results reported by Faturohman and Hadi (2024), who found that student mastery of underhand serving skills reached only 41.67% prior to instructional intervention.

Further classroom observations indicated several factors contributing to these low learning outcomes. First, instructional activities remained predominantly teacher-centered, limiting students' opportunities for active engagement and practice. Second, students rarely received immediate and constructive feedback regarding movement execution, resulting in the persistence of technical errors. Third, collaborative interaction among students was minimal, reducing learning motivation and social engagement. Similar findings have been reported by Sani et al. (2023), who highlighted that many physical education learning outcomes remain below established competency standards due to ineffective instructional strategies.

Recent developments in physical education emphasize the implementation of student-centered pedagogical models that encourage active participation, peer interaction, and self-regulated learning (Casey & MacPhail, 2018; Kirk, 2020).

Contemporary instructional approaches recognize that learning motor skills is more effective when students actively participate in evaluating and improving their own performance as well as that of their peers (Dyson et al., 2021).

One instructional model that aligns with these principles is the reciprocal teaching style developed within Mosston and Ashworth's Spectrum of Teaching Styles. In reciprocal teaching, students work in pairs, with one student performing a motor task while the partner observes performance using predetermined criteria and provides feedback. The roles are then exchanged, enabling both students to experience performing and evaluating (Mosston & Ashworth, 2015).

The reciprocal teaching style has been widely acknowledged as an effective approach for promoting student autonomy, communication skills, responsibility, and learning achievement (Maulana et al., 2021). Through peer observation and feedback mechanisms, students become more actively engaged in the learning process while simultaneously developing cognitive and social competencies. Research has demonstrated that reciprocal teaching enhances skill acquisition because learners receive immediate corrective feedback during practice sessions (Nugroho et al., 2025).

Several empirical studies support the effectiveness of reciprocal teaching in sports education. Febriant et al. (2024), through a systematic literature review, concluded that reciprocal teaching significantly improves learning outcomes across various sports activities, including volleyball, basketball, and athletics. Likewise, Liani (2023) found that reciprocal teaching significantly enhanced underhand passing skills among high school students. Similar findings have been reported in studies examining badminton, soccer, and physical fitness instruction, where reciprocal learning contributed to higher student engagement and improved motor performance (Pratama et al., 2022; Wijaya et al., 2023).

The theoretical foundation of reciprocal teaching is rooted in social constructivist learning theory, particularly Vygotsky's perspective that learning occurs through social interaction and collaborative knowledge construction. Peer feedback facilitates scaffolding processes that help learners achieve higher levels of performance than would be possible individually (Vygotsky, 1978). Consequently, reciprocal teaching not only improves technical skill performance but also supports communication, cooperation, and critical thinking development.

Although numerous studies have investigated the effectiveness of reciprocal teaching in physical education, several limitations remain evident in the existing literature. First, most previous studies have focused on general volleyball skills such as passing and game performance rather than specifically examining underhand serving competence (Liani, 2023; Febriant et al., 2024). Given that serving represents the initial offensive action in volleyball, mastery of this skill is crucial for successful game participation. Second, existing studies have predominantly been conducted in elementary and junior high school settings, while empirical evidence regarding reciprocal teaching implementation among senior high school students remains limited. High school students possess different cognitive, social, and motor development characteristics that may influence the effectiveness of instructional interventions.

Third, studies investigating reciprocal teaching within the South Kalimantan educational context are scarce. Educational environments differ in terms of student characteristics, facilities, and learning culture, making localized investigations important for generating context-specific evidence. Fourth, previous studies rarely combine reciprocal teaching with progressive practice variations. Specifically, the integration of target-zone serving activities designed to improve accuracy has received limited scholarly attention. Such modifications may enhance students' motivation and provide more challenging learning experiences. Therefore, further investigation is needed to determine whether reciprocal teaching can effectively improve underhand volleyball serve learning outcomes among senior high school students while incorporating target-zone practice variations.

Based on the identified problems and research gaps, this study aims to: (1) describe the implementation of the reciprocal teaching method in learning underhand volleyball serving among Grade XI-2 students at State Senior High School 2 Martapura; and (2) improve students' underhand volleyball serve learning outcomes through the implementation of the reciprocal teaching method. The novelty of this study lies in several aspects. First, it specifically examines the application of reciprocal teaching to the underhand serve technique, a fundamental volleyball skill that remains underexplored in previous research. Second, the study focuses on senior high school students, a population that has received relatively limited attention in reciprocal teaching research. Third, the study is conducted within the South Kalimantan educational context, contributing localized empirical evidence to the field of physical education pedagogy. Fourth, the intervention integrates reciprocal teaching with target-zone serving exercises in Cycle II, providing an innovative combination of peer-feedback learning and accuracy-oriented skill practice.

In conclusion, this study is expected to contribute both theoretically and practically to the development of student-centered instructional strategies in physical education. The findings may provide empirical evidence regarding the effectiveness of reciprocal teaching in improving underhand volleyball serving skills and serve as a pedagogical reference for physical education teachers seeking to enhance student learning outcomes through active, collaborative, and feedback-oriented learning approaches.

## METHODS

This research is Classroom Action Research (CAR) conducted collaboratively between the researcher and the PE teacher by referring to the model (Arikunto, & Suhardjono, 2021), which consists of four stages in each cycle, namely planning, action implementation, observation, and reflection. The research was conducted in two cycles in April–May 2026 at Martapura 2 State Senior High School. Each cycle was implemented to improve the learning process and enhance the learning outcomes of underhand volleyball service for the students.

The population in this study is all students of class XI-2 at Martapura 2 State Senior High School in the 2025/2026 academic year, totaling 35 students, consisting of male and

**Akhmad Reza Maulana[1A-E*], Syamsul Arifin[2B-D], Busriansyah[3B-D], Wawan Setiawan[4B-D], Khairul Muis[5B-D], Santoso[6B-D]**
rzamaulana1234@gmail.com[1*]

female students. The sampling technique used is saturated sampling (total sampling), which means all members of the population are used as research samples (Maulana et al., 2024). This technique was chosen because the population size is relatively small and all the students have characteristics that align with the research objective, which is to improve the learning outcomes of underhand volleyball serves.

The research instruments used consist of test and non-test instruments. The test instrument is a volleyball underhand serve skill test which includes three assessment aspects, namely initial posture (preparation), movement execution, and final posture (follow through) with a maximum score of 9 points. The final score of the students is calculated using the formula:

$$\text{Score} = \frac{\text{Score Achievement}}{9} \; X \; 100$$

Students are declared complete if they obtain a score ≥75 in accordance with the school's KKTP. Non-test instruments in the form of observation sheets of student and teacher activities during the learning process are used. The data analysis technique uses quantitative descriptive analysis to determine the improvement in learning outcomes and student activities in each cycle. The percentage of classical learning completeness is calculated using the formula:

$$P = \frac{Number\ of\ Students\ Completed}{Total\ Number\ of\ Students} \; X \; 100\%$$

The research is declared successful if at least 80% of the students or at least 28 out of 35 students achieve a score of ≥75 at the end of Cycle II, and the students' activities are in the "Good" category (70–84%) or "Very Good" (≥85%).

## RESULTS AND DISCUSSION

### Result

### Pre-Cycle

Before conducting the Classroom Action Research (PTK), the researcher first conducted an initial observation and collected data on the underhand volleyball service skills of XI-2 class students as a starting point (baseline) of the study. Based on the results of the underhand volleyball service performance test carried out before the action was taken, the class average score was 59.74 with a Poor category. Out of 35 students, only 15 students (42.86%) were declared to have passed in meeting the Minimum Competency Criteria (KKTP) with a score ≥75, while 20 students (57.14%) had not yet passed. The highest score obtained by a student was 83.3, while the lowest score was 33.3.

**Table 1.**
Pre-Cycle Data Results

| Description | Result |
|---|---|
| Students Completed | 15 (42,86%) |
| Students Not Completed | 20 (57,14%) |
| Average | 59,74 |
| Highest Score | 83,5 |
| Lowest Score | 33,3 |

**Akhmad Reza Maulana[1A-E*], Syamsul Arifin[2B-D], Busriansyah[3B-D], Wawan Setiawan[4B-D], Khairul Muis[5B-D], Santoso[6B-D]**
rzamaulana1234@gmail.com[1*]

**Cycle I**

Based on the results of observing the teacher's activities in learning volleyball underhand service using the reciprocal method, a score of 25 was obtained with a percentage of 78.12% which falls into the good category. The teacher has carried out learning activities quite effectively, starting from opening the lesson, conveying objectives, demonstrating movements, to conducting evaluation and reflection.

**Table 2**.
Observation Results of Teacher Activities Cycle I

| Observed Aspect | Score (1-4) | Notes |
|---|---|---|
| 1. The teacher opens the lesson with a greeting, prayer, and apperception. | 3 | Well implemented |
| 2. The teacher communicates the learning objectives clearly. | 3 | Well implemented |
| 3. The teacher explains the concept of the reciprocal method (roles of doer and observer) clearly. | 3 | Needs further explanation for some students |
| 4. The teacher demonstrates the correct underhand volleyball serve. | 4 | Very well implemented |
| 5. The teacher distributes the criteria sheets and explains how to use them. | 3 | Some students do not understand the indicators |
| 6. The teacher monitors and guides pairs during partner practice. | 3 | Monitoring is even but needs to be more individual |
| 7. The teacher manages learning time efficiently. | 3 | Need to increase practice time allocation |
| 8. The teacher conducts evaluation and reflection at the end of the lesson. | 3 | Well implemented |
| **Total Score** | **25** | **78.12% (Good)** |

Based on the observation results of student activities in learning underhand volleyball serving using the reciprocal method, a score of 21 was obtained with a percentage of 65.62%, which falls into the fairly active category. Most students have paid attention to the teacher's explanation and showed enthusiasm in carrying out the underhand serve movement tasks.

**Table 3.**
Observation Results of Student Activeness Cycle I

| Observed Aspect | Score (1-4) | Notes |
|---|---|---|
| 1. Students pay close attention to the teacher's explanation. | 3 | Most pay attention |
| 2. Students understand how to use the criteria sheet as an observer. | 2 | Many still do not understand |
| 3. Students actively perform the underhand serve movement task as the doer. | 3 | Enthusiastic to practice underhand serve |
| 4. Students provide constructive feedback to their partner based on the criteria sheet. | 2 | Feedback is not yet specific |
| 5. Students receive feedback from the observer and try to improve their movements. | 3 | Willing to accept input from partner |
| 6. Students take turns roles (doer/observer) in an orderly manner. | 2 | Some need to be reminded to switch roles |
| 7. Students demonstrate cooperation, responsibility, and sportsmanship during learning. | 3 | Cooperation is beginning to form well |
| 8. Students actively participate in the evaluation and final reflection of learning. | 3 | Active in reflection sessions |
| **Total Score** | **21** | **65.62% (Fairly Active)** |

**Akhmad Reza Maulana[1A-E*], Syamsul Arifin[2B-D], Busriansyah[3B-D], Wawan Setiawan[4B-D], Khairul Muis[5B-D], Santoso[6B-D]**
rzamaulana1234@gmail.com[1*]

Based on the class average scores data, in Cycle I it increased to 71.65 (Fair category), from previously 59.74 in the pre-cycle. The number of students who passed increased to 22 students (62.86%), while those who did not pass decreased to 13 students (37.14%). The highest score rose to 91.7 (Very Good) and the lowest score rose to 58.3 as can be seen in the following table.

**Table 4.**
Cycle I Data Results

| Description | Result |
|---|---|
| Students Completed | 22 (62,86%) |
| Students Not Completed | 13 (37,14% |
| Average | 71,65 |
| Highest Score | 91,7 |
| Lowest Score | 58,3 |

**Siklus II**

Based on the results of the observation of teacher activities in cycle II, a total score of 30 was obtained with a percentage of 93.75%, which falls into the very good category. The teacher was able to carry out all stages of learning optimally, from opening the lesson, conveying objectives, explaining the updated criterion sheets with illustrative images, to conducting evaluation and reflection in a structured manner.

**Table 5**.
Observation Results of Teacher Activities Cycle II

| Observed Aspect | Score (1-4) | Notes |
|---|---|---|
| 1. The teacher opens the lesson with a greeting, prayer, and apperception. | 4 | Very good, student motivation is high |
| 2. The teacher communicates the learning objectives clearly. | 4 | Implemented very well |
| 3. The teacher explains the concept of the reciprocal method (roles of doer and observer) clearly. | 4 | Illustration images are very helpful for student understanding |
| 4. The teacher demonstrates the correct underhand volleyball serve. | 4 | Implemented very well |
| 5. The teacher distributes the criteria sheets and explains how to use them. | 3 | Individual guidance is more structured |
| 6. The teacher monitors and guides pairs during partner practice. | 4 | Optimal practice time allocation |
| 7. The teacher manages learning time efficiently. | 3 | Increase students' self-confidence |
| 8. The teacher conducts evaluation and reflection at the end of the lesson. | 4 | Implemented very well and structured |
| **Total Score** | **30** | **93.75% (Very Good)** |

Based on the results of observing student activities in cycle II, a total score of 29 was obtained with a percentage of 90.62%, which falls into the very active category. Students showed high attention and enthusiasm during learning, and were able to understand the use of the updated criteria sheets with the help of picture illustrations.

**Table 6.**
Observation Results of Student Activeness Cycle II

| Observed Aspect | Score (1-4) | Notes |
|---|---|---|
| 1. Students pay close attention to the teacher's explanation. | 4 | All students pay attention enthusiastically |

| | Observed Aspect | Score (1-4) | Notes |
|---|---|---|---|
| 2. | Students understand how to use the criteria sheet as an observer. | 4 | Illustration images facilitate understanding |
| 3. | Students actively perform the underhand serve movement task as the doer. | 4 | Very active and enthusiastic in practicing |
| 4. | Students provide constructive feedback to their partner based on the criteria sheet. | 3 | Feedback is more accurate and specific |
| 5. | Students receive feedback from the observer and try to improve their movements. | 4 | Students actively correct movement techniques |
| 6. | Students take turns roles (doer/observer) in an orderly manner. | 3 | Role switching runs smoothly and independently |
| 7. | Students demonstrate cooperation, responsibility, and sportsmanship during learning. | 4 | Cooperation and sportsmanship are very good |
| 8. | Students actively participate in the evaluation and final reflection of learning. | 3 | Discussion is productive and active |
| | **Total Score** | **29** | **90.62% (Very Active)** |

Based on the class average scores in Cycle II, it increased to 78.09 (Fair category, approaching the upper limit). The number of students who passed increased significantly to 31 students (88.57%), while those who did not pass were only 4 students (11.43%). The highest score remained 91.7 (Very Good) and the lowest score was 58.3, as can be seen in the following table.

**Table 7.**
Cycle II Data Results

| Description | Result |
|---|---|
| Students Completed | 31 (88,57%) |
| Students Not Completed | 4 (11,43%) |
| Average | 78,09 |
| Highest Score | 91,7 |
| Lowest Score | 58,3 |

## Discussion

The research results show that the application of the reciprocal teaching method is able to improve the learning outcomes of underhand volleyball serves for Class XI-2 students at Martapura 2 State Senior High School gradually and consistently. The improvement is not only seen in the completeness of classical learning and the average scores of students, but also in the quality of the learning process, teacher activities, and student participation during the learning process. These changes indicate that the reciprocal method is able to create a more active, collaborative learning atmosphere and provide students with the opportunity to be directly involved in the evaluation of movements through the roles of doer and observer. The use of a criteria sheet accompanied by illustrated diagrams in Cycle II has also been proven to help students understand the indicators of underhand serve techniques more clearly, making the feedback provided more specific and meaningful.

The findings of this study reinforce previous research results which stated that the reciprocal learning method is effective in improving learning outcomes in volleyball games. Research Pujianto, (2023) shows that the reciprocal teaching style contributes

positively to volleyball learning through increased participation and student learning outcomes. In addition, Febriant, et al., (2024) In a systematic literature review, it is also emphasized that the reciprocal teaching style consistently improves learning outcomes in various sports activities, including volleyball. The results of this study are in line with these findings because the improvement in learning outcomes occurred alongside the increased quality of interactions among students and the effectiveness of feedback provided during the practice process. Thus, this study further strengthens the theory that active student involvement in the learning process is an important factor in mastering motor skills.

From the perspective of motor learning theory, the improvement in learning outcomes in this study is influenced by the immediate feedback mechanism, which is a key characteristic of the reciprocal method. Students receive direct movement corrections from their partners based on a criteria sheet prepared by the teacher, so technical errors can be immediately corrected during practice. This condition differs from conventional learning, which tends to be teacher-centered and results in limited feedback because the teacher has to observe all students simultaneously. In the reciprocal method, students not only learn to perform movements but also learn to observe, evaluate, and communicate the results of their observations to their peers. This process encourages the development of critical thinking, cooperation, responsibility, and interpersonal communication skills, which are an important part of physical education learning in the Merdeka Curriculum.

Another important aspect found in this study is the increase in the quality of student participation from the fairly active category to very active after improvements in actions in Cycle II. This indicates that the success of the reciprocal method is not only determined by the division of roles between doer and observer, but also by the quality of learning support media, particularly the criteria sheets that are easily understood by students. The use of image illustrations on the observation sheets provides a new contribution in this study because it helps students understand technical indicators visually, making the observation and feedback process more effective. These findings provide a practical contribution for PJOK teachers that simple modifications to learning tools can enhance the effectiveness of implementing the reciprocal method in the field.

Although the research results show a significant improvement, there are still some students who have not achieved the KKTP by the end of Cycle II. Based on observations, students who have not completed the tasks still experience difficulties in motor coordination, especially in foot positioning at the starting stance, the alignment of arm swings, and weight transfer when hitting the ball. This indicates that each student's motor skills develop at different rates, so some students require more intensive practice and individual guidance through a remedial program. These findings also show that the reciprocal method is very effective in improving learning on a classical scale, but still requires special assistance for students who have difficulties with motor coordination.

This research provides theoretical and practical contributions to PJOK learning, particularly on the subject of volleyball underhand serve. Theoretically, this study strengthens the concept of student-centered learning that places students as active subjects in the learning process. Practically, this research offers alternative learning strategies that PJOK teachers can apply to improve the learning outcomes of basic volleyball techniques through a combination of paired exercises, peer feedback, and observation criteria sheets. In addition, this study also provides an overview that learning involving social interaction and peer evaluation can increase students' motivation and participation in physical activity.

Nevertheless, this study has limitations. The research was conducted in only one class with a limited sample size, so the generalization of the research results is still limited to similar contexts. In addition, the study focused solely on the underhand volleyball service skill, so the effectiveness of the reciprocal method on other volleyball techniques has not yet been thoroughly determined. The relatively short duration of the study also meant that observations on the long-term impact of the reciprocal method on motor skill retention could not be conducted. Therefore, future research is recommended to involve a larger number of subjects, apply the reciprocal method to other physical education and sports materials, and combine it with digital learning media or motion analysis videos to optimize the effectiveness of learning more effectively.

## CONCLUSION

Based on the results of the research, the implementation of the reciprocal teaching method has been proven to improve the learning outcomes of underhand volleyball serves for eleventh-grade students of Martapura 2 State Senior High School. The improvement is seen from the increased classical learning completeness, the increased average student scores, as well as the increased teacher activity and student participation during the learning process. Through switching roles as doer and observer, students become more active in performing, observing, and correcting movements based on feedback given directly through the criteria sheet. This condition shows that the reciprocal method is able to create a Physical Education learning process that is more interactive, collaborative, and student-centered in accordance with the demands of the Merdeka Curriculum. In addition to improving underhand volleyball serving skills, the reciprocal teaching method also has a positive impact on students' cooperation, communication, responsibility, and active participation in learning. The use of a criteria sheet complemented with picture illustrations in Cycle II helps students understand movement techniques better, making the feedback process more effective. Although there are still some students who have not reached the KKP due to coordination constraints, in general, this study shows that the reciprocal method is feasible to be used as an alternative PE teaching strategy. Future research is recommended to apply this method to other PE materials with a larger number of subjects and a longer research duration in order to obtain more comprehensive results.

## ACKNOWLEDGMENTS

The author expresses appreciation and gratitude to the Mentor Teacher, Field Supervising Lecturer, Principal, all educators at Martapura 2 State Senior High School, as well as the students of class XI-2 who have provided support, assistance, and participation during the research process. The contribution and cooperation from these various parties greatly facilitated the smooth implementation of this research. This research was carried out as part of the fulfillment of tasks in the Field Experience Practice (PPL) activity in the Pre-service Teacher Professional Education Program (PPG) in the Physical Education, Sports, and Health Study Program at Lambung Mangkurat University for the 2025/2026 Academic Year.

## REFERENCES

Ahmad Roisuddin , Sudarso, Jully Supriadi, D. S. (2023). Penelitian Tindakan Kelas Upaya Meningkatkan Kebugaran Jasmani Pada Komponen Kecepatan dan Kelincahan Melalui Permainan Pada Siswa kelas XI IPA 5 Ahmad. JUMPER (Jurnal Mahasiswa Pendidikan Olahraga), 3(2), 139–152.

Amansyah, A., & Hardinoto, N. (2025). The effect of volleyball game modifications (KASVOL) on students' learning motivation in physical education learning. EDUKASIA: Jurnal Pendidikan dan Pembelajaran, 6(1), 413–424. Retrieved from https://jurnaledukasia.org/index.php/edukasia/article/download/1433/859/3905

Anwar, N. I. A. (2025). The role of physical education in improving students' physical and mental health: A literature review. Jurnal Pendidikan Jasmani Kesehatan dan Rekreasi, 5(1), 1–12. Retrieved from https://ejournal.ummuba.ac.id/index.php/pjkr/article/view/3783

Arikunto, S., Suhardjono, & S. (2021). Arikunto, S., Suhardjono, & Penelitian Tindakan Kelas (Edisi Revisi). Jakarta: Bumi Aksara. ISBN: 978-602-217-656-7. (Suryani (ed.); Edisi Revi). PT Bumi Aksara.

Budi, A. S. (2021). Development of volleyball smash training aid media for extracurricular activities. Budapest International Research and Critics Institute (BIRCI-Journal), 4(2), 2450–2458. Retrieved from https://bircu-journal.com/index.php/birci/article/download/1936/pdf

Casey, A., & MacPhail, A. (2018). Adopting a models-based approach to teaching physical education. Physical Education and Sport Pedagogy, 23(3), 294–310. https://doi.org/10.1080/17408989.2018.1429588

Daniel Febriant, Alit Rahmat, C. (2024). Pengaruh Gaya Mengajar Resiprokal Pada Pendidikan Jasmani (Systematic Literature Review). Jurnal Edu Research : Indonesian Institute For Corporate Learning And Studies (IICLS), 5(2), 28–35. https://doi.org/https://doi.org/10.47827/jer.v5i2.180

Dyson, B., Colby, R., & Barratt, M. (2021). The co-construction of cooperative learning in physical education with elementary classroom teachers. Journal of Teaching in Physical Education, 40(2), 251–258. https://doi.org/10.1123/jtpe.2019-0218

Early Rahma Sani, Ngatman, Agus Susworo Dwi Marhaendro, Z. A. B. (2023). Evaluasi pelaksanaan pembelajaran pendidikan jasmani olahraga dan kesehatan (PJOK) di era New Normal SMP se-Kecamatan Mungkid, Kabupaten Magelang. Jurnal Pendidikan Jasmani Indonesia, 19(2), 17–28.

Faturohman, A., & Hadi, S. (2024). Improving volleyball underhand serve learning outcomes through innovative learning approaches. Jurnal Pendidikan Olahraga Indonesia, 10(1), 55–65.

Febriant, R., Prasetyo, A., & Kurniawan, D. (2024). Reciprocal teaching style in physical education: A systematic literature review. Physical Education and Sports Studies Journal, 6(2), 102–118.

Hasyim, H. (2021). Improving volleyball game learning outcomes through innovative learning models. Gorontalo Sport Science Journal, 1(1), 45–55. Retrieved from https://eprints.unm.ac.id/34905/1/3.%20artikel%20jurnal%20gorontalo%20sport%20science.pdf

Kholiq, N. (2025). Volleyball basic techniques and movement coordination in physical education learning. Citius Journal of Sport Sciences, 4(1), 22–34. Retrieved from https://journal.unugiri.ac.id/index.php/citius/article/download/5793/1948

Kirk, D. (2020). Precarity, critical pedagogy and physical education. Routledge. https://doi.org/10.4324/9780429261048

Liani, S. (2023). The effect of reciprocal teaching style on volleyball underhand passing skills among senior high school students. Jurnal Pendidikan Olahraga, 12(3), 177–186.

Maulana, A. R., Amirudin, A., Fauzan, L. A., Mangkurat, U. L., & Selatan, K. (2024). Analisis Tingkat Ketepatan Shooting ke Gawang SSB. SPRINTER : Jurnal Ilmu Olahraga, 5(1), 161–167.

Maulana, M. A., Mulhim, M., & Sofyan, S. (2021). Analisis Gaya Mengajar Menurut Muska Mosston Terhadap Hasil Belajar Pendidikan Jasmani Pada Peserta Didik Kelas X Sma Negeri 1 Martapura. STABILITAS: Jurnal Pendidikan Jasmani Dan Olahraga, 2(2), 129–134. https://doi.org/10.20527/mpj.v2i2.916

Maulana, R., Nugraha, E., & Pratama, Y. (2021). Reciprocal teaching style and student engagement in physical education learning. Journal of Physical Education Innovation, 1(1), 15–23.

Mosston, M., & Ashworth, S. (2015). Teaching physical education (First online ed.). Spectrum Institute for Teaching and Learning. Retrieved from https://spectrumofteachingstyles.org

Naibaho, T. (2025). Physical education, sports, and health towards learning motivation and academic achievement. Competitor: Jurnal Pendidikan Kepelatihan Olahraga, 17(1), 22–31. Retrieved from https://competitor.idjournal.eu/index.php/competitor/article/view/479

Nopembri, S. (2025). Implementation of the independent curriculum in physical education and health. Indonesian Journal of Sport Management, 5(1), 1–15. Retrieved from https://ejournal.unma.ac.id/index.php/ijsm/article/view/16670

Nugraha, U. (2025). Volleyball education to foster discipline and character development among students. El-Midad Journal, 17(1), 100–115. Retrieved from https://www.ftkjournal-uinmataram.id/index.php/elmidad/article/download/14557/4042

Nugroho, A., Hidayat, T., & Saputra, M. (2025). Peer feedback and reciprocal learning in physical education classes. Journal of Sports Pedagogy and Learning, 8(1), 44–56.

Pratama, F., Wijayanti, R., & Setiawan, D. (2022). Student-centered learning strategies in sports education. Jurnal Pendidikan Jasmani Indonesia, 18(2), 115–124.

Pujianto, D. (2023). Application of Reciprocal Teaching Style in Improving Student Lecture Process in Volleyball Course. 1, 30–34.

Putra, R. Y. (2025). The effect of plyometric training methods on athlete performance in volleyball. Movement and Recreation Journal, 6(1), 15–26. Retrieved from https://jurnal.umnu.ac.id/index.php/mor/article/download/2106/1003

Rahman, T., Ulum, M. B., Hudain, M. A., & Alwi, A. (2025). Implementation of character building by teachers in physical education subjects: A sociological perspective. Jurnal Kajian Ilmiah Multidisipliner, 4(2), 55–67. Retrieved from https://journal.admi.or.id/index.php/JUKIM/article/download/2332/2252/7516

Rini, E. F. S., Aldila, F. T., & Wirayudha, R. P. (2023). A study of student learning discipline in senior high school. Jurnal Ilmiah Ilmu Terapan Universitas Jambi, 7(1), 33–37. https://doi.org/10.22437/jiituj.v7i1.26698

Roisuddin, M., Hidayatullah, A., & Putra, R. (2023). Disciplinary levels of student volleyball athletes. Indonesian Journal of Sport Management, 3(2), 242–260. https://doi.org/10.31949/ijsm.v3i2.7256

Sahabuddin, S., Hakim, H., Syahruddin, S., & Sofyan, D. (2023). Management of volleyball extracurricular sports coaching at high school. Journal of Education and Sport Science, 4(1), 20–30. Retrieved from https://www.researchgate.net/publication/372212493_Management_of_Volleyball_Extracurricular_Sports_Coaching_at_High_School

Sani, R., Arifin, Z., & Kurniawati, D. (2023). Evaluation of PJOK learning outcomes in Indonesian secondary schools. Jurnal Pendidikan Jasmani dan Olahraga, 8(2), 90–101.

Sitepu, R. S., Anggara, N., & Perdinanto. (2024). Journal of Physical Education Innovation. Journal of Physical Education Innovation, 1(1), 1–5. Retrieved from https://jurnal.stokbinaguna.ac.id/index.php/JoPEI/article/download/2592/1306

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.

Wijaya, A., Saputra, R., & Yuliana, N. (2023). The effectiveness of collaborative learning in improving motor skills in physical education. Journal of Sport and Education Research, 5(2), 88–97.