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Application Of The Teaching Games For Understanding (Tgfu) Method To Improve Learning Outcomes Of Underwear Passing In Volleyball Games

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ABSTRACT

Physical Education, Sports, and Health (PJOK) learning requires innovative instructional approaches that actively engage students and improve both skill mastery and participation. However, preliminary observations at State Senior High School 2 Martapura revealed that students' underhand passing skills in volleyball were still relatively low, with only 20% of students achieving the Minimum Mastery Criterion (KKM). Therefore, this study aimed to improve the learning outcomes of volleyball underhand passing through the application of the Teaching Games for Understanding (TGfU) method among Grade XI-3 students. This study employed a Classroom Action Research (CAR) design using the Kemmis and McTaggart model, consisting of two cycles: planning, acting, observing, and reflecting. The participants were 35 students of Grade XI at State Senior High School 2 Martapura. Data were collected through psychomotor performance tests, teacher activity observation sheets, and student activeness observation sheets. Data analysis was conducted using descriptive comparative techniques across the research cycles. The findings demonstrated a substantial improvement in students' learning outcomes following the implementation of the TGfU method. Learning mastery increased from 20.00% (7 students) in the pre-cycle to 54.29% (19 students) in Cycle I and reached 91.43% (32 students) in Cycle II, exceeding the predetermined success criterion of 80%. The average score improved from 53.4 in the pre-cycle to 71.7 in Cycle I and 78.6 in Cycle II. Teacher activity reached 95% in Cycle II, categorized as very good. Student activeness also improved considerably, with 57.14% of students categorized as good and very good in Cycle II. In conclusion, the TGfU method is effective in improving underhand passing learning outcomes, increasing student participation, and creating a more active and meaningful learning environment in senior high school physical education.

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INTRODUCTION

Physical Education, Sports, and Health (PJOK) is an essential component of the Indonesian educational system that aims to develop students holistically through

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physical, cognitive, affective, and social learning experiences (Mashud, 2019). In line with the implementation of the Merdeka Curriculum and the Regulation of the Ministry of Education, Culture, Research, and Technology Number 7 of 2022 concerning Educational Content Standards, PJOK learning is expected to facilitate students in mastering movement skills while simultaneously developing critical thinking, collaboration, communication, and problem-solving abilities (Aisyah et al., 2025). Consequently, physical education learning should move beyond traditional technique-oriented instruction and promote student-centered approaches that actively engage learners in meaningful learning situations.

Volleyball is one of the most widely taught sports in senior high schools because it provides opportunities for students to improve physical fitness, teamwork, communication skills, and sportsmanship values (Faturohman & Hadi, 2024). As a team sport, volleyball requires players to master various technical skills, including serving, passing, setting, spiking, and blocking. Among these techniques, the underhand pass is considered one of the most fundamental skills because it serves as the primary means of receiving serves and initiating offensive play (Roisuddin et al., 2023). Mastery of underhand passing significantly influences overall game performance and becomes a prerequisite for learning more advanced volleyball techniques.

Despite its importance, many students experience difficulties in performing proper underhand passing techniques. Preliminary observations conducted in Class XI-3 of State Senior High School 2 Martapura revealed unsatisfactory learning outcomes. Of the 35 students who participated in the pre-action assessment, only seven students (20%) achieved the Minimum Competency Criterion (KKM = 75), while 28 students (80%) failed to meet the required standard. Furthermore, students displayed low levels of participation, enthusiasm, and motivation during volleyball lessons. Similar findings have been reported in previous studies indicating that volleyball learning outcomes remain relatively low when instructional practices emphasize repetitive technical drills without meaningful game contexts (Wismarni, 2021; Syamsudin et al., 2022).

One major factor contributing to this problem is the predominance of conventional teaching methods. Traditional instructional approaches generally position teachers as the primary source of information, while students act as passive recipients of knowledge (Wismarni, 2021). Such approaches often fail to stimulate students' interest, tactical understanding, and active engagement in learning activities. Consequently, there is a need for innovative teaching methods that create enjoyable, meaningful, and student-centered learning experiences capable of improving volleyball learning outcomes.

Contemporary physical education pedagogy emphasizes student-centered learning models that integrate tactical understanding with skill development. One of the most influential approaches in game-based learning is the Teaching Games for Understanding (TGfU) model developed by Bunker and Thorpe in 1982. TGfU was designed to address the limitations of technique-centered instruction by placing tactical awareness and game understanding at the center of the learning process (Harvey & Jarrett, 2014).

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The TGfU approach encourages students to learn through modified games that simulate actual game situations. Through this process, students develop decision-making abilities, tactical awareness, problem-solving skills, and technical proficiency simultaneously (Kinnerk et al., 2018). Unlike traditional methods that teach techniques in isolation, TGfU provides meaningful contexts that help students understand why and when specific techniques should be applied during gameplay (Light & Harvey, 2017).

Numerous studies have demonstrated the effectiveness of TGfU in improving learning outcomes in physical education. Harvey and Jarrett (2014) reported that TGfU positively influences students' tactical awareness and game performance. Similarly, Farias et al. (2018) found that students taught using TGfU exhibited significantly higher engagement and decision-making abilities compared to those taught using direct instruction methods. In volleyball-specific contexts, Mesquita et al. (2021) showed that TGfU enhanced students' technical execution and tactical understanding more effectively than traditional approaches.

Within the Indonesian educational context, empirical evidence also supports the implementation of TGfU. Wismarni (2021) reported that the application of TGfU in volleyball learning at SMA Negeri 1 Pontianak resulted in an average achievement score of 76.5%, categorized as very good. Alkandi et al. (2021) demonstrated significant improvements in volleyball learning outcomes among Grade XI students at SMA Negeri 2 Slawi after implementing TGfU-based instruction. More recently, Alamsyah (2025) found that TGfU significantly enhanced students' volleyball skills, learning motivation, and classroom participation.

Research has further indicated that TGfU contributes positively to students' cognitive, affective, and psychomotor domains. Students become more active in discussions, demonstrate better tactical understanding, and show increased motivation to participate in learning activities (Casey & MacPhail, 2018; Stolz & Pill, 2019). These findings suggest that TGfU aligns well with the goals of the Merdeka Curriculum, which emphasizes active learning, critical thinking, collaboration, and learner autonomy.

Although numerous studies have investigated the effectiveness of TGfU in physical education settings, several research gaps remain. First, many previous studies focused on general game performance and tactical awareness without specifically examining the improvement of underhand passing skills in volleyball. Technical mastery of underhand passing remains an important issue because it forms the foundation of successful volleyball performance (Mesquita et al., 2021).

Second, most Indonesian studies have been conducted in schools located in western and central regions of Indonesia, such as Pontianak and Slawi (Wismarni, 2021; Alkandi et al., 2021). Empirical evidence regarding the implementation of TGfU in South Kalimantan educational settings, particularly in Martapura, remains limited. Differences in school culture, learning environments, and student characteristics may influence the effectiveness of instructional interventions.

Third, previous studies predominantly employed quasi-experimental designs focusing on statistical comparisons between experimental and control groups. Few

studies have utilized Classroom Action Research (CAR) approaches to systematically observe the implementation process, identify classroom challenges, and continuously improve teaching practices through cyclical interventions (Kemmis et al., 2014).

Finally, limited studies have examined TGfU implementation within the framework of the Merdeka Curriculum, which emphasizes student-centered learning, independent exploration, and contextual understanding. Therefore, further investigation is required to determine how TGfU can contribute to improving volleyball learning outcomes under current curriculum demands.

Based on the identified problems and research gaps, this study aims to analyze the implementation of the Teaching Games for Understanding (TGfU) method and its effectiveness in improving underhand passing learning outcomes among students of Class XI-3 at State Senior High School 2 Martapura. The novelty of this research lies in three main aspects. First, this study specifically focuses on improving underhand passing skills, a fundamental volleyball technique that has received limited attention in previous TGfU research. Second, the research is conducted within the context of the Merdeka Curriculum, providing contemporary insights into the alignment between innovative pedagogical approaches and current educational reforms. Third, the study employs a Classroom Action Research design that enables continuous reflection and improvement of instructional practices through iterative learning cycles. The action hypothesis proposed in this study is that the implementation of the TGfU method can improve students' underhand passing learning outcomes and achieve classical learning mastery of at least 80%.

In conclusion, the low learning outcomes of underhand passing among Class XI-3 students at State Senior High School 2 Martapura indicate the need for innovative and student-centered instructional approaches. The Teaching Games for Understanding (TGfU) method offers a promising alternative because it integrates tactical awareness, decision-making, and technical skill development within meaningful game contexts. Previous international and national studies have consistently demonstrated the effectiveness of TGfU in enhancing students' engagement, motivation, tactical understanding, and game performance. However, limited research has specifically investigated its application to underhand passing skills within the context of the Merdeka Curriculum and South Kalimantan educational settings. Therefore, this study is expected to contribute theoretically to the development of game-based learning pedagogy and practically to improving volleyball learning outcomes in senior high school physical education.

METHODS

This study employed a Classroom Action Research (CAR) design aimed at improving students' learning outcomes in underhand passing through the implementation of the Teaching Games for Understanding (TGfU) method. Classroom Action Research is widely recognized as an effective approach for addressing practical educational problems while

simultaneously improving instructional quality through continuous cycles of planning, implementation, observation, and reflection (Arikunto & Suhardjono, 2021). CAR allows teachers and researchers to collaboratively identify learning difficulties, implement pedagogical interventions, evaluate outcomes, and refine teaching strategies based on empirical evidence (Kemmis et al., 2014). Recent studies in physical education have highlighted the effectiveness of CAR in improving motor skills, student engagement, and learning achievement through reflective instructional practices (Casey & MacPhail, 2018; Harvey & Jarrett, 2014).

The research was conducted collaboratively and participatively between the researcher and the PJOK teacher at State Senior High School 2 Martapura. The study was carried out from April to May 2026 and followed the Kemmis and McTaggart action research model, which consists of four interconnected stages in each cycle: planning, acting, observing, and reflecting (Kemmis et al., 2014). Two action cycles were implemented to ensure continuous improvement of the learning process and students' volleyball passing performance. Such cyclical implementation has been recommended in physical education research because it provides opportunities to evaluate instructional effectiveness and make evidence-based modifications (MacPhail et al., 2019).

The participants of this study were all students of Class XI-2 of State Senior High School 2 Martapura during the even semester of the 2025/2026 academic year. The class consisted of 35 students, comprising 18 male and 17 female students. The research was conducted at State Senior High School 2 Martapura, located on Jalan Ahmad Yani Km. 40, Banjar Regency, South Kalimantan. Class XI-2 was purposively selected because preliminary observations indicated that it had the lowest learning achievement among Grade XI classes, with only 20% of students achieving the Minimum Mastery Criterion (KKM). Similar studies suggest that targeted interventions should prioritize classes demonstrating low skill mastery and learning motivation to maximize instructional impact (Mesquita et al., 2021; Kinnerk et al., 2018).

The intervention applied the Teaching Games for Understanding (TGfU) approach, a game-centered pedagogical model emphasizing tactical awareness and decision-making before isolated technical instruction (Light & Harvey, 2017). Each cycle consisted of two meetings (2 × 45 minutes) and followed the six TGfU stages proposed by Bunker and Thorpe and further developed in contemporary game-based learning research (Harvey & Jarrett, 2014; Stolz & Pill, 2019). The stages included: (1) Game Form, where students participated in modified volleyball games using a 3 versus 3 format in Cycle I and a 4 versus 4 format in Cycle II; (2) Game Appreciation, introducing game rules and the strategic role of underhand passing; (3) Tactical Awareness, involving guided discussions and questioning techniques to enhance tactical understanding; (4) Making Appropriate Decisions, where students practiced selecting effective responses in game situations; (5) Skill Execution, focusing on technical mastery of underhand passing, including ready position, ball contact, and follow-through movement; and (6) Performance, where students applied learned skills and tactical concepts in actual gameplay situations.

Research has shown that these TGfU stages effectively improve technical performance, game intelligence, and student motivation in volleyball learning contexts (Farias et al., 2018; Mesquita et al., 2021).

Data collection employed three primary instruments. First, a psychomotor performance test was administered at the end of each cycle to evaluate underhand passing skills. The assessment rubric measured three performance components: initial stance, ball contact, and follow-through movement. Each component was scored on a scale of 1–4, resulting in a maximum score of 12. Students' final scores were calculated using the formula: Score = (Obtained Score / 12) × 100. Second, a teacher activity observation sheet consisting of five indicators was used to evaluate instructional implementation, with a maximum score of 20. Third, a student participation observation sheet consisting of three indicators was employed to assess engagement during learning activities, with a maximum score of 12. Similar observational instruments have demonstrated strong validity in evaluating game-based physical education interventions (Casey & MacPhail, 2018; Stolz & Pill, 2019).

Data were analyzed using descriptive comparative analysis by comparing student learning outcomes and activity levels across cycles. Learning achievement data were analyzed based on the percentage of students achieving mastery learning, while participation data were categorized according to activity levels during instruction. Consistent with previous action research studies in physical education (Kinnerk et al., 2018; Harvey et al., 2020), the success criteria were established as follows: at least 80% of students achieving a score of ≥75 (KKM/KKTP) and student participation reaching at least the Good category, corresponding to an activity percentage range of 61–80%. Achievement of these indicators signified the successful implementation of the TGfU method in improving underhand passing learning outcomes among students.

RESULTS AND DISCUSSION

Result

This classroom action research was conducted in two cycles to determine the effectiveness of the Teaching Games for Understanding (TGfU) method in improving students' underhand passing learning outcomes in volleyball. The results are presented based on learning achievement, teacher activities, and student activeness during the learning process.

Pre-Cycle Results

Before implementing the TGfU method, a pre-action test was conducted to identify students' initial abilities in performing underhand passing. The results revealed that students' learning outcomes were relatively low. Of the 35 students participating in the test, only 7 students (20.00%) achieved the Minimum Mastery Criterion (KKM = 75), while 28 students (80.00%) failed to meet the required standard. The average score was 53.4, indicating inadequate mastery of the underhand passing technique.

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Table 1.
Pre-Cycle Learning Outcomes

Description	Result
Students Completed	7 (20.00%)
Students Not Completed	28 (80.00%)
Average Score	53.4
Highest Score	85.5
Lowest Score	33.3

The low achievement level suggests that the conventional teacher-centered instructional approach did not provide sufficient opportunities for students to actively engage in meaningful learning experiences. Consequently, an innovative learning strategy was required to improve students' understanding and technical execution of underhand passing.

Cycle I Results

The first cycle implemented the TGfU learning stages through modified volleyball games, tactical discussions, decision-making activities, and skill execution practices. The results demonstrated a noticeable improvement in students' learning outcomes.

Table 2.
Cycle I Learning Outcomes

Description	Result
Students Completed	19 (54.29%)
Students Not Completed	16 (45.71%)
Average Score	71.7
Highest Score	85.5
Lowest Score	58.3

The average score increased from 53.4 in the pre-cycle to 71.7 in Cycle I. The number of students achieving mastery learning increased from 7 students (20.00%) to 19 students (54.29%). Although substantial progress was observed, the classical mastery level had not yet reached the predetermined success criterion of 80%.

Table 3.
Observation Results of Teacher Activities in Cycle I

No	Assessment Indicator	Score
1	Pre-learning preparation	4
2	Opening activities	4
3	Main learning activities	3
4	Closing activities	3
5	Classroom management	3
	Total Score	**17 (85%)**

Teacher performance during Cycle I achieved a percentage of 85%, categorized as Good. The observation results indicate that the TGfU learning process was implemented effectively, although several aspects still required improvement.

Table 4.
Student Activeness in Cycle I

Category	Interval	Frequency	Percentage
Very Good	81–100%	0	0%
Good	61–80%	6	17%
Sufficient	41–60%	29	83%
Poor	<40%	0	0%

The observation findings show that student participation was still dominated by the sufficient category (83%), while only 17% of students reached the good category. This indicates that although students had begun to engage actively in learning activities, further efforts were required to increase participation and classroom involvement.

Cycle II Results

Improvements identified during reflection in Cycle I were incorporated into Cycle II. Additional emphasis was placed on tactical understanding, decision-making, and active participation during modified games. The results demonstrated significant progress in all measured indicators.

Table 5.
Cycle II Learning Outcomes

Description	Result
Students Completed	32 (91.43%)
Students Not Completed	3 (8.57%)
Average Score	78.6
Highest Score	91.7
Lowest Score	66.6

The average score increased from 71.7 in Cycle I to 78.6 in Cycle II. The percentage of students achieving mastery learning increased substantially from 54.29% to 91.43%. Only three students remained below the mastery criterion. Furthermore, the highest score increased to 91.7, while the lowest score improved to 66.6, indicating a more balanced distribution of student achievement.

Table 6.
Observation Results of Teacher Activities in Cycle II

No	Assessment Indicator	Score
1	Pre-learning preparation	4
2	Opening activities	4
3	Main learning activities	4
4	Closing activities	3
5	Classroom management	4
Total Score		**19 (95%)**

Teacher activity improved to 95%, categorized as **Very Good**. This result demonstrates that the implementation of TGfU became increasingly effective and well-managed throughout the research process.

Table 7.
Student Activeness in Cycle II

Category	Interval	Frequency	Percentage
Very Good	81–100%	4	11.43%
Good	61–80%	16	45.71%
Sufficient	41–60%	15	42.86%
Poor	<40%	0	0%

Student activeness improved considerably in Cycle II. The proportion of students categorized as Good and Very Good increased to 57.14%, while no students were classified as Poor. These findings indicate that students became more engaged, motivated, and actively involved in volleyball learning activities.

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Table 8.
Improvement of Learning Outcomes Across Cycles

Indicator	Pre-Cycle	Cycle I	Cycle II
Average Score	53.4	71.7	78.6
Students Completed	7	19	32
Percentage Completed	20.00%	54.29%	91.43%

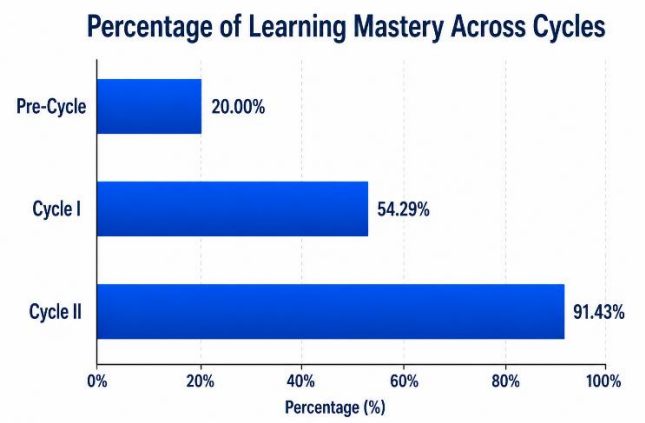

Figure 1.
Percentage of Learning Mastery Across Cycles

The findings clearly demonstrate a continuous improvement in learning outcomes from the pre-cycle to Cycle II. The percentage of mastery learning increased by 34.29 percentage points from the pre-cycle to Cycle I and by an additional 37.14 percentage points from Cycle I to Cycle II. Overall, mastery learning increased from 20.00% to 91.43%, exceeding the predetermined success criterion of 80%. These results indicate that the implementation of the Teaching Games for Understanding (TGfU) method effectively improved students' underhand passing skills, enhanced classroom participation, and increased overall learning achievement in volleyball among Grade XI students at State Senior High School 2 Martapura.

Discussion

The findings of this classroom action research demonstrate that the implementation of the Teaching Games for Understanding (TGfU) method effectively improved students' underhand passing learning outcomes in volleyball. The improvement was evident from the increase in classical mastery learning from 20.00% in the pre-cycle to 54.29% in Cycle I and finally to 91.43% in Cycle II. Likewise, the average score increased from 53.4 to 71.7 and eventually reached 78.6. These results indicate that the TGfU approach successfully addressed the limitations of conventional instruction and facilitated more meaningful learning experiences for students. Similar findings have been reported by Harvey and Jarrett (2014), Light and Harvey (2017), Casey and MacPhail (2018), Kinnerk et al. (2018), Stolz and Pill (2019), and Mesquita et al. (2021), who concluded that game-based pedagogical approaches contribute significantly to improvements in technical performance, tactical awareness, and student engagement.

The improvement observed in Cycle I can be explained through the fundamental characteristics of the TGfU model, which emphasizes learning through authentic game situations rather than isolated technical drills. In conventional volleyball instruction, students often practice passing techniques repeatedly without understanding their tactical relevance in actual gameplay. Consequently, learning becomes mechanical and less meaningful, resulting in low motivation and limited skill transfer (Casey & MacPhail, 2018; Harvey et al., 2020). Through the Game Form stage, students were immediately involved in modified volleyball games, allowing them to experience real game situations before receiving explicit technical instruction. This approach aligns with the TGfU philosophy developed by Bunker and Thorpe and further elaborated in contemporary research (Light & Harvey, 2017; Ashar & Marhani, 2024).

The increase from 20.00% mastery in the pre-cycle to 54.29% in Cycle I demonstrates that students began to understand the functional importance of underhand passing within the game context. According to Iskandar and Rustanto (2023), game-based learning encourages students to recognize tactical problems and seek solutions actively, thereby enhancing their cognitive engagement. Similar conclusions were reported by Farias et al. (2018), Mesquita et al. (2021), and Pill (2020), who found that TGfU effectively integrates cognitive and psychomotor learning domains. When students understand why a skill is necessary, they become more motivated to master the technique. This phenomenon explains why the average score increased substantially during the first cycle.

The more substantial improvement observed in Cycle II was closely related to the modifications made following the reflection stage of Cycle I. The implementation of a 4 versus 4 game format increased ball-touch opportunities for all students, allowing greater participation and practice frequency. In motor learning theory, repeated and meaningful practice plays a crucial role in skill acquisition and movement automation (Schmidt & Lee, 2019). Additional time allocated for the Skill Execution phase enabled students to refine their passing techniques more effectively, while individualized feedback helped correct specific technical errors. Research conducted by Alamsyah (2025), Putri et al. (2024), and Wismarni (2021) similarly demonstrated that structured TGfU implementation combined with continuous feedback significantly improves volleyball passing skills and overall learning outcomes.

From a constructivist learning perspective, the findings indicate that students actively constructed knowledge through interaction with the learning environment. Constructivist theory argues that learners develop understanding through experience, reflection, and social interaction rather than through passive reception of information (Casey & MacPhail, 2018). TGfU embodies this principle by allowing students to explore game situations, discuss tactical challenges, make decisions, and apply technical solutions within meaningful contexts (Glauca et al., 2025). The six stages of TGfU Game Form, Game Appreciation, Tactical Awareness, Making Appropriate Decisions, Skill Execution, and Performance provide systematic scaffolding that guides students from understanding game concepts to executing technical skills effectively (Harvey & Jarrett, 2014; Stolz & Pill, 2019).

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The significant increase in learning outcomes also reflects the successful integration of cognitive, affective, and psychomotor domains. Volleyball underhand passing is not merely a motor skill but also requires perception, anticipation, decision-making, and teamwork. Previous studies have shown that TGfU contributes to holistic learning because students simultaneously develop tactical understanding and technical competence (Mesquita et al., 2021; Kinnerk et al., 2018). In the present study, students became increasingly capable of identifying appropriate passing situations, positioning themselves strategically, and executing accurate passes during modified games. Such improvements suggest that TGfU effectively promotes transfer of learning from practice situations to actual gameplay contexts.

Another important finding concerns student activeness during the learning process. Observation data showed that in Cycle I, most students were categorized as having sufficient participation (82.86%), while only 17.14% reached the good category. However, in Cycle II, the percentage of students categorized as good and very good increased dramatically to 57.14%. This increase confirms that TGfU not only improves technical performance but also enhances student engagement. According to Iskandar and Rustanto (2023), TGfU stimulates active participation because students are continuously challenged to solve tactical problems, communicate with teammates, and make game-related decisions. Similar findings were reported by Gubacs-Collins (2015), Harvey et al. (2020), and Ginanjar and Julianti (2024), who found that game-centered learning environments increase motivation, enjoyment, and classroom participation.

The improvement in student activeness can also be explained through the motivational climate created by the TGfU approach. Self-Determination Theory suggests that students become more motivated when learning activities satisfy their needs for autonomy, competence, and relatedness (Ryan & Deci, 2020). TGfU provides opportunities for students to make decisions independently, experience success through modified games, and collaborate with peers. These elements foster intrinsic motivation and create positive emotional experiences during learning (Light & Harvey, 2017; Casey & MacPhail, 2018). Furthermore, the consistent use of verbal reinforcement and positive feedback in Cycle II contributed to increased confidence and persistence among students. This finding supports Ginanjar and Julianti (2024), who emphasized that TGfU can promote positive character traits such as cooperation, discipline, responsibility, and sportsmanship.

The improvement in teacher activity from 85% in Cycle I to 95% in Cycle II further contributed to the success of the intervention. Effective implementation of TGfU requires teachers to function as facilitators who guide questioning, encourage reflection, and create meaningful game situations rather than merely transmitting technical information (Harvey & Jarrett, 2014; Stolz & Pill, 2019). The increased teacher performance observed in Cycle II indicates greater mastery of TGfU instructional principles, resulting in more effective classroom management and learning facilitation. Similar observations were reported by MacPhail et al. (2019) and Mesquita et al. (2021), who highlighted the importance of teacher competence in maximizing the effectiveness of game-based pedagogies.

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Overall, the findings of this study are consistent with previous national and international research demonstrating the effectiveness of TGfU in physical education settings. Studies by Wismarni (2021), Alkandi et al. (2021), Putri et al. (2024), Alamsyah (2025), Harvey and Jarrett (2014), Kinnerk et al. (2018), Farias et al. (2018), Casey and MacPhail (2018), Stolz and Pill (2019), and Mesquita et al. (2021) consistently report positive impacts on learning achievement, tactical understanding, motivation, and student participation. The increase in classical mastery learning from 20.00% to 91.43%, accompanied by an average score of 78.6 and improved student engagement, provides strong empirical evidence that the structured and reflective implementation of the TGfU method through Classroom Action Research is an effective strategy for improving volleyball underhand passing learning outcomes at the senior high school level. Therefore, TGfU can be recommended as an innovative pedagogical approach that supports the objectives of the Merdeka Curriculum by promoting active, meaningful, and student-centered learning in Physical Education, Sports, and Health (PJOK).

CONCLUSION

Based on the results of this Classroom Action Research, it can be concluded that the implementation of the Teaching Games for Understanding (TGfU) method was effective in improving both student learning activity and underhand passing learning outcomes in volleyball among Grade XI-2 students at State Senior High School 2 Martapura. The findings demonstrate that TGfU provides a meaningful, student-centered learning environment in which students actively engage in game situations, develop tactical awareness, make appropriate decisions, and apply technical skills within authentic playing contexts. This approach successfully transformed the learning process from a teacher-centered model into an interactive and participatory learning experience.

Empirically, the implementation of TGfU resulted in a substantial improvement in student participation throughout the research cycles. The proportion of students categorized as having good and very good learning activity increased progressively from 14% in the pre-cycle, to 17.14% in Cycle I, and reached 57.14% in Cycle II. This improvement indicates that TGfU effectively encouraged students to become more involved, motivated, and responsible during the learning process. The modified games, tactical discussions, and collaborative learning activities created opportunities for active engagement and meaningful interaction among students.

Furthermore, the TGfU method significantly improved students' psychomotor learning outcomes in underhand volleyball passing. The class average score increased from 53.4 in the pre-cycle to 71.7 in Cycle I and further improved to 78.6 in Cycle II. Similarly, the percentage of classical mastery learning increased dramatically from 20.00% in the pre-cycle to 54.29% in Cycle I, and finally reached 91.43% in Cycle II, exceeding the predetermined success criterion of 80%. These results confirm that TGfU is highly effective in enhancing technical skill acquisition while simultaneously fostering tactical understanding and learning motivation.

Based on these findings, it is recommended that Physical Education teachers adopt TGfU as a primary instructional approach for teaching volleyball and other invasion or net games. Schools are encouraged to support teacher professional development related to game-based learning and provide adequate facilities for its implementation. Future studies should expand the scope of investigation by incorporating cognitive and affective learning assessments and involving larger samples to strengthen the generalizability of the findings.

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