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Article

How do the STAD cooperative learning model, conventional methods, and student confidence affect football learning outcomes?

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Keywords:

Cooperative learning model,
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Football learning outcomes,
Student confidence,
Quasi-experimental study

ABSTRACT

This study evaluates the impact of the STAD-type cooperative learning model versus the conventional model on football learning outcomes for Grade VIII students at Junior High School 2 Sijunjung, focusing on students' confidence levels. It addresses the low football learning outcomes associated with conventional teaching methods, which often lead to reduced engagement. The research aims to explore the interaction between learning models and student confidence, compare the effectiveness of both models, and examine differences in outcomes for high and low confidence students. Using a quasi-experimental method, the study involved 82 male students, categorized by confidence level and instructed through either the STAD or conventional model. Data were collected via confidence questionnaires and football skill tests, analyzed using two-way ANOVA and Tukey's test. Findings indicate that the STAD model is more effective in improving football learning outcomes, particularly for students with low confidence. Conversely, high confidence students performed better with the conventional approach. This highlights the significant role of confidence in learning outcomes and suggests that collaborative settings benefit less confident learners. The study concludes that tailoring teaching methods to students' confidence levels can enhance engagement and performance. Future recommendations include strategies to boost student confidence, further improving physical education outcomes.

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Introduction

Sport plays an important role in the educational curriculum at all levels, from elementary school to college (Al Zaki et al., 2023; R. F. Illahi et al., 2024; Insani et al., 2024). Sports education can develop students' athletic potential optimally (Andica et al., 2024; Safitri et al., 2023, 2024). However, learning outcomes in sports are influenced by various internal and external factors that interact with each other. Such as internal factors include aspects such as students' confidence, health, intelligence, abilities, talents, and interests (Pitnawati et al., 2023). Self-confidence, for example, can affect a student's performance in sports, while good health can support better physical achievement (Ockta et al., 2024; Oktadinata et al., 2024). On the other hand, external factors also have a significant impact on physical education learning outcomes (Sáez, Solabarrieta, and Rubio 2021; Sotos-Martínez et al. 2023, Sepriani et al. 2024). The environment in which students practice, the economic condition of

parents, the abilities and competencies of teachers, and the learning model applied play an important role (R. R. Illahi et al., 2023; Umar, Ockta, et al., 2023; Yuliana et al., 2023). A supportive environment and adequate facilities can affect students' motivation and performance in sports. In addition, teachers' ability to teach sports techniques and strategies also affects the effectiveness of learning (Nusri et al., 2024). The curriculum implemented must be in accordance with the needs and ability levels of students in order to produce optimal results (Arfi et al., 2024; Ismail et al., 2024). Learning outcomes in sports refer to measures of the success of the learning process that include affective, cognitive, and psychomotor domains (Dalkıran et al., 2020; Sari et al., 2020; Umar, 2023).

In the context of this study, learning outcomes in football are measured through specific skill tests such as passing, dribbling, and shooting. These tests are designed to assess students' technical abilities in playing football, which reflects the effectiveness of their learning and skill development in the sport (Umar, Alnedral, et al., 2023). Football is a team sport played by two teams, each consisting of eleven players who act on the field (Likardo et al., 2023; Rambe et al., 2024). The game requires mastering several basic techniques, such as passing, dribbling, shooting, and defending, all of which are crucial for success in the game (R. R. Illahi et al., 2023). To teach these techniques effectively, the learning approach used in schools can affect student learning outcomes. In the context of sports education, the learning model plays a crucial role in determining how well students can master the skills taught (Sasmita et al., 2023). One of the widely used models is the STAD (Student Teams Achievement Divisions) type cooperative learning model (Kadek Yogi Parta, 2016; Lahir et al., 2017; Nur Syamsu et al., 2019).

This model encourages students to work together in small groups, where each group member helps each other and motivates each other to achieve a common goal. In STAD, students not only learn from teachers, but also from their peers, which can improve their overall understanding and skills (Amtu et al., 2020; Franczyk et al., 2023). In contrast, conventional learning models usually place more emphasis on the approach of lectures, questions and answers, and individual exercises (Abuhassna et al., 2020; Adi Kesuma et al., 2021; Litsa & Bekiari, 2022). In this model, the main focus is on direct teaching from the teacher to the individual student, which often leaves students learning separately without significant interaction with their peers (Hooda et al., 2022; Setiaji et al., 2022). While this method can be effective for some students, it may provide less opportunities for students to learn through collaboration and team support (Akram et al., 2021; Valentini, 2012). An effective learning model can increase student participation, motivation, and creativity, which can ultimately improve their skills and learning outcomes.

Cooperative models, such as the STAD type, allow students to learn in groups, help each other, and improve skills through social interaction. In contrast, conventional learning models, which focus more on an individualized approach, may be less motivating for students with low levels of confidence goals (Gordon et al., 2021; Neina & Qomariyah, 2021; V. Jonathan et al., 2021). Self-confidence is an important factor in sports that can serve as a driving force and motivation for students to face challenges and achieve their goals (Arja Bahauddin & Priambodo, 2022; Barman & Jena, 2023). Confidence not only affects the way students approach the learning process, but it also has a direct impact on the outcomes they achieve. Confident students tend to be more courageous to try new techniques, take risks, and keep practicing despite difficulties. Conversely, students with low levels of confidence may feel anxious or indecisive, which can hinder their progress in learning new skills. Students with low confidence will get positive encouragement from their peers and feel more motivated to actively participate in the learning process (Belton et al., 2014; Gordon et al., 2021).

Students with low confidence can greatly benefit from receiving positive encouragement from their peers. When peers offer support and validation, it creates a more inclusive and motivating learning environment (Alipour et al., 2023; Huang et al., 2021; Tsai et al., 2023). This encouragement helps to build self-esteem and fosters a sense of belonging, making students feel more comfortable and willing to engage in classroom activities. As a result, they are more likely to participate actively and contribute to discussions. This supportive atmosphere not only boosts their confidence but also enhances their overall learning experience, leading to better academic outcomes and personal

growth. Encouragement from peers is a powerful tool in nurturing student motivation and involvement (Amtu et al., 2020; Dong & Liu, 2022; Puspitarini & Hanif, 2019).

Observations show that one of the causes of low football learning outcomes at Junior High School 2 Sijunjung is the conventional learning method. The learning model used tends to be in the form of lectures, questions and answers, and individual exercises, which often make students passive and less engaged (Alimuddin et al., 2024; Daniel A & Suleiman, I.A, 2023; Piñeiro-Cossio et al., 2021). As a result, some students feel bored and unmotivated, so some of them often drop out of class. This study aims to identify and compare the effectiveness of the STAD-type cooperative learning model and the conventional model in improving the football learning outcomes of Junior High School 2 Sijunjung students, taking into account the student confidence factor. It is hoped that the findings of this study can make a significant contribution to the development of more effective learning strategies to improve sports learning outcomes in schools.

The main task of Physical Education teachers in this school is to teach and develop basic football techniques to students through Physical education subjects and self-development activities at school. However, physical education teachers at junior high school 2 Sijunjung face challenges in teaching basic football techniques. This difficulty has a negative impact on student learning outcomes, which can be seen from observation data. In the July-December 2023 semester, out of 165 grade VIII students, only half achieved the same score or exceeded the Minimum Completeness Criteria of 7.0 in football material. This low learning outcome indicates the need for evaluation of teaching methods as it can hinder students' progress in football subject matter at the next level, especially in grade IX, where football skills are expected to be more complex.

The purpose of this study is to evaluate the influence of the STAD type cooperative learning model and the conventional model on the football learning outcomes of junior high school 2 Sijunjung students, as well as to explore the interaction between the learning model and confidence on learning outcomes. This study has several specific objectives: (1) To assess the interaction between the learning model and confidence on football learning outcomes, (2) To compare the influence of football learning outcomes between the group using the STAD type cooperative learning model and the group using the conventional model, (3) To identify the difference in the influence of football learning outcomes between the group with high confidence that uses the STAD type cooperative model compared to the group using the conventional model, and (4) Identifying the difference in the influence of football learning outcomes between the group with low confidence who used the STAD-type cooperative model compared to the group that used the conventional model.

Methods

This study employs a quasi-experimental method to assess the influence of teaching models and confidence levels on football learning outcomes at Junior High School 2 Sijunjung. The research design includes a qualitative descriptive approach for measuring students' confidence, alongside quantitative analyses of dribbling, passing, and shooting skills assessed through repeated football tests. Conducted over four weeks in March to April 2024, the study involved 16 meetings, with preliminary data collected to categorize students into high and low confidence groups. The sample comprised 82 male students in grade VIII, selected through saturated sampling; however, further clarification on inclusion and exclusion criteria is needed to ensure representativeness and minimize selection bias. Students were classified based on a Likert Scale questionnaire, but detailed criteria for this grouping should be provided to clarify how these categories were determined.

The study utilized specific tests for measuring football skills, yet more information on the standards and validity of these instruments is necessary to establish reliability. While the study was structured around 16 sessions, details on the duration and activities of each session should be specified to understand their potential impact on the results. Data analysis employed two-way ANOVA and the Tukey test for further interactions; however, the rationale for these analyses and how assumptions of normality and homogeneity of variances were tested should be elaborated. Overall,

the study design aims to ensure both internal and external validity while testing the research hypothesis, with results presented in Table 1:

Table 1. Sample Partitioning of Each Cell

(A) Confidence (B) / Learning Model	Cooperative STAD (A_1)	Conventional (A_2)	Total
High (B_1)	11	11	22
Low (B_2)	11	11	22
Total	22	22	44

Results and Discussion

Variance Analysis Requirements Testing

Hypothesis testing in this study was carried out using two-track variant analysis (ANAVA). As a requirement for this, a normality test and a variance homogeneity test are required.

Table 2. Normality Test

Group	N	L_{count}	L_{table}	Conclusion
A1B1	11	0,202	0,27	Normal
A1B2		0,157		
A2B1		0,179		
A2B2		0,13		

Table 3. Variance Homogeneity Test

Group	Separate Variance	Combined Variance	B Value	X^2h	X^2t (0.95)(3)	Conclusion
A1B1	1,6	2,48	15,76	50,26	7,82	Homogen
A1B2	1,1					
A2B1	4,2					
A2B2	3,0					

Table 4. Hypothesis Testing

Source of Variance	JK	db	RJK	Fcount	Ftable 0,05	Ftable 0,01	Conclusion
Learning Model	0,36	1	0,36	0,15	4,08	6,96	Sig
Creativity quotient	525,09	1	525,09	211,96	4,08	6,96	Sig
Interaction AB	52,36	1	52,36	21,14	4,08	6,96	Sig
Error	99,09	40	2,48	-	-	-	
Total	676,91	43		-	-	-	

In the ANOVA results, F-count represents the ratio of variance between the groups to the variance within the groups, while F-table provides the critical value for determining statistical significance at specified alpha levels. The significant F-count values (greater than the corresponding F-table values) suggest that both the learning model and creativity quotient significantly influence student learning outcomes.

Table 5. Advanced Anava Results With Tuckey Test

Group	Qh	Qt (= 0.05)	Conclusion
A1B1 , A2B1	9,96	4,26	Sig.
A1B2 , A2B2	19,16	4,26	Sig.

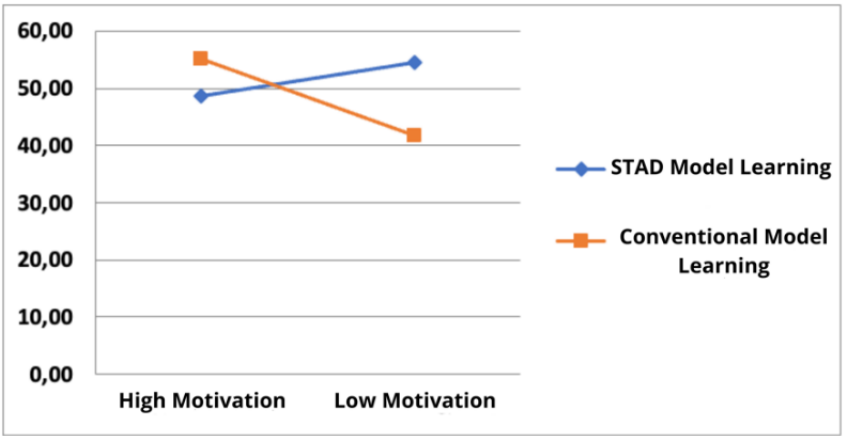

Figure 1. Interaction of the Learning Model with Confidence

The results of the first hypothesis test show that overall, the improvement of the learning outcomes of the STAD-type cooperative learning model learning group is higher than that of the conventional learning learning group. In other words, the proposed research hypothesis is significantly tested for correctness. From the results of these findings, it can be stated that the STAD-type cooperative learning model is more effective in using to improve football learning outcomes. This can be seen from the results of statistical analysis with a mean difference of 3.08, which means that learning using the STAD-type cooperative learning model has a better influence compared to learning using conventional learning. This is in line with previous research Almulla (2020) that cooperative learning can be used in physical education settings when students have the ability to learn as well as work cooperatively.

The STAD type cooperative learning model is able to increase students' confidence in learning football. This is due to the reward for the group that has the highest score. Thus, for students who are initially lazy or not confident in learning football after being given a STAD-type cooperative learning model, students become confident to learn football. The effectiveness of the STAD-type cooperative learning model is supported by the existence of a group learning atmosphere. It is different from conventional learning where students are taught alternately, so that students wait long enough to wait for their turn. In the conventional learning process, students develop individually, this means that students do not care about other students who want to improve the learning outcomes of football, this has an impact on improving student learning outcomes, for students who have high confidence, the learning outcomes of football will increase significantly while for students who have low confidence it will be difficult to improve their football learning results. Thus, students will have difficulty developing their skills as desired.

The teacher's decision in choosing the learning model to be used in motor learning is very important to achieve learning goals (Villena-Taranilla et al., 2022; Yogi et al., 2022). The teacher's ability to choose and apply the right model can significantly affect student learning outcomes. Research on the interaction between independent variables and moderator variables shows that there is an interaction between learning models and confidence in influencing learning outcomes. Huang et al (2021) explained that self-confidence, or self-efficacy, plays an important role in the learning process and the outcomes achieved, supporting the finding that self-confidence moderates the relationship between learning models and learning outcomes. In the group of students with high confidence who learned using conventional methods, their football learning outcomes were better

compared to the same group but using a STAD-type cooperative learning model. This is in accordance with the findings Barman and Jena (2023) which states that students who already have high motivation to learn will show better results in learning. In contrast, in the group of students with low confidence who learned using the STAD model, the learning outcomes of football were better compared to the group that used conventional methods. This research supports the theory that cooperative learning models can increase students' confidence, as explained by Durand-Bush et al (2023) which states that cooperative learning, especially with group awards, can increase students' confidence and learning outcomes. Thus, the STAD-type cooperative learning model has been proven to be more effective in improving football learning outcomes in students with low confidence compared to conventional learning methods.

The findings align with previous research, indicating that the STAD-type cooperative learning model significantly enhances learning outcomes, particularly for students with low confidence. The graph illustrating the interaction between learning models and confidence levels needs more detailed interpretation; specific trends, such as higher performance in low-confidence students using STAD versus high-confidence students with conventional methods, should be elaborated. This study contributes to the literature by highlighting the role of self-efficacy in learning outcomes, consistent with Huang et al. (2021). However, a deeper integration of findings with existing theories is necessary to strengthen the theoretical framework. The mixed outcomes for high-confidence students warrant further exploration, particularly regarding motivational factors.

Educators are encouraged to implement the STAD model, particularly in classes with diverse confidence levels. Specific recommendations could include strategies for fostering collaboration and rewards that enhance group dynamics. Such practical guidance is essential for teachers aiming to adapt these models effectively. This study's quasi-experimental design and sample size present limitations that could affect the generalizability of the findings. Future research should account for potential external factors and explore long-term impacts of different learning models. The STAD-type cooperative learning model proves more effective for low-confidence students, yet its effectiveness for high-confidence students requires further clarification. These insights emphasize the importance of tailored educational strategies in promoting cooperative learning across various disciplines and underscore the need for additional research into the interaction between learning models and psychological factors like self-confidence.

Conclusion

Based on the research findings and discussions, it can be concluded that students in the STAD-type cooperative learning model group generally achieve better football learning outcomes compared to those in the conventional learning group. There is a significant interaction between the learning model and students' confidence levels that affects these outcomes. For students with high self-confidence, conventional learning methods may enhance performance due to structured, independent activities that align with their assertiveness, allowing them to excel without waiting for group interactions. Conversely, for students with low self-confidence, the STAD model's peer support and collaborative nature can foster motivation and a sense of belonging, which enhances their engagement and learning outcomes. Therefore, it is recommended that teachers incorporate both STAD and conventional learning models to enhance football performance. Specifically, teachers should consider the classroom dynamics; for low-confidence students, the STAD model is advisable to leverage peer support, while conventional methods may be optimal for high-confidence students, as these allow for greater autonomy. Moreover, teachers could implement a blended approach, applying STAD activities alongside conventional methods within the same lesson to cater to varying confidence levels effectively. This aligns with prior studies indicating the importance of adapting teaching strategies to meet diverse student needs, reinforcing the idea that the effectiveness of a learning approach is closely linked to students' self-confidence level.

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