JUMORA: JURNAL MODERASI OLAHRAGA
E-ISSN: 2797-8761
Volume 6, No. 1, June 2026
DOI: 10.53863/mor.v6i1.1765
Universitas Ma'arif Nahdlatul Ulama Kebumen

Original Article Research

The Influence of the Cooperative Learning Model Type Team Game Tournament on the Passing Ability of Football Learning

Dian Permana[1]*, Bela Santika[1], Ai Faridah[1], Arief Adhitia Hamzah[1], Agung Nur Rumdian[1], Ali MD Nadzalan[2]

[1]*Physical Education, STKIP Purwakarta, Purwakarta, Indonesia*

[2]*Coaching Science, Faculty of Sport Science and Coaching, Universiti Pendidikan Sultan Idris, Perak, Malaysia.*

*email corresponding author: *dian.coach@gmail.com*

Received: 03/07/2025 *Revised: 15/04/2026* *Accepted: 20/04/2026*

Abstract

Physical education plays a role in promoting students' motor competence, social interaction, and participation in school learning environments. However, many elementary school physical education classes still rely on teacher-centered instructional approaches that limit student engagement and reduce opportunities for practicing sport skills. This situation often results in limited mastery of football techniques, particularly passing ability, which is a key component of maintaining ball possession and building team play. Therefore, this study aimed to examine the effectiveness of the Teams Games Tournament cooperative learning model in improving students' football passing ability. The participants were twenty male third-grade students from SDN Tanggulun 2, Indonesia. The study employed a quasi-experimental approach using a pretest and posttest control group design conducted over ten learning sessions. The intervention involved implementing the Teams Games Tournament cooperative learning model during football learning activities, emphasizing teamwork, structured gameplay, and tournament-based interaction. Data were collected using a standardized football passing ability test measuring accuracy, strength, and technique. The data were analyzed using descriptive statistics, an independent-samples t-test, and normalized gain analysis in SPSS. The results revealed that students who participated in the cooperative learning intervention showed greater improvement in passing ability than students receiving conventional instruction. The experimental group achieved a mean posttest score of 40.00, whereas the control group obtained a mean posttest score of 23.40. These findings confirm that the Teams Games Tournament cooperative learning model effectively enhances football passing skills in elementary school physical education.

Keywords: Cooperative learning, Elementary physical education, Football passing ability motor, Skill development, Teams Games Tournament.

JUMORA: JURNAL MODERASI OLAHRAGA
E-ISSN: 2797-8761
Volume 6, No. 1, June 2026
DOI: 10.53863/mor.v6i1.1765
Universitas Ma'arif Nahdlatul Ulama Kebumen

How to cite:

Permana, D., Santika, B., Faridah, A., Hamzah, A. A., Rumdian, A. N., & Nadzalan, A. M. (2026). The Influence of the Cooperative Learning Model Type Team Game Tournament on the Passing Ability of Football Learning. *Jurnal Moderasi Olahraga*, *6*(1), 76–92. https://doi.org/10.53863/mor.v6i1.1765

1. INTRODUCTION

Physical education plays a fundamental role in promoting students' physical development, motor competence, and social interaction within school environments. In football, passing ability is one of the most essential technical skills because it enables players to maintain possession, coordinate team movements, and construct effective attacking strategies. Mastery of basic football techniques during early school years is therefore important for supporting both technical skill development and students' engagement in physical activity (Tomčić et al., 2021).

However, many elementary school physical education classes still rely on teacher-centered instructional approaches that provide limited opportunities for active participation and collaborative learning. Such approaches often result in reduced student motivation and limited skill acquisition during sports learning sessions. Recent studies indicate that student-centered learning models are more effective in improving motor skills, engagement, and collaborative interaction among learners in physical education settings (Aslam et al., 2025; Feng et al., 2025). Cooperative learning approaches have been recognized as effective pedagogical strategies for improving both cognitive and motor learning outcomes in sport education.

Within football instruction, cooperative learning models allow students to practice technical skills through structured collaboration and game-based interaction. These learning environments not only improve skill execution but also enhance students' communication, teamwork, and problem-solving abilities. Consequently, the implementation of innovative instructional strategies is increasingly considered necessary to improve students' technical performance in physical education classes (Gao, 2025; Xie et al., 2025). Cooperative learning has been widely adopted in physical education as an instructional approach that emphasizes student collaboration, shared responsibility, and active participation in the learning process. According to recent research, cooperative learning environments can significantly improve students' motor skill acquisition and social interaction compared with traditional instructional approaches (Aslam et al., 2025; Chen et al., 2026). Through collaborative practice and structured peer interaction, students become more engaged in learning tasks and develop a deeper understanding of movement techniques.

One of the most widely used cooperative learning models in sports education is the Teams Games Tournament (TGT) model. This model integrates teamwork, competitive gameplay, and tournament-based activities to enhance motivation for learning and skill development. Previous studies have demonstrated that TGT can effectively increase students' participation, motivation, and learning outcomes in physical education classes (Endrawan et al., 2023). The model allows students to practice sport techniques in a supportive yet competitive learning environment, encouraging them to actively participate in skill-based activities.

In the context of football learning, research has shown that game-based cooperative strategies can improve technical skills, including passing accuracy, ball control, and tactical

awareness. The game-based training environments improve technical performance by providing repeated practice opportunities in realistic play situations (Günar & Bavlı, 2025; Liu et al., 2024). Similarly, cooperative learning models have been shown to enhance students' engagement and improve motor skill development in school sports programs (Akil et al., 2024; Zhou et al., 2023).

Although numerous studies have explored the effectiveness of cooperative learning models in physical education, most research has focused on secondary school or youth sport settings rather than elementary school contexts. In addition, many studies emphasize general learning outcomes or student motivation rather than examining specific technical skills such as football passing ability. As a result, empirical evidence regarding the effectiveness of cooperative learning models in improving fundamental football skills among elementary school students remains relatively limited. Furthermore, previous studies often investigate cooperative learning in broader sport education programs without specifically analyzing the effectiveness of the Teams Games Tournament model in improving passing skills among young learners. This limitation highlights the need for more focused experimental studies examining how specific cooperative learning strategies influence fundamental sport techniques in elementary physical education settings.

Considering the importance of basic football skills and the need for more engaging instructional strategies in physical education, investigating the effectiveness of cooperative learning approaches becomes highly relevant. The Teams Games Tournament model offers a structured learning environment that combines teamwork, competition, and game-based learning, potentially enhancing students' motivation and technical performance.By implementing this model in elementary school football instruction, students are expected to experience more interactive learning situations that encourage active participation and repeated practice of technical skills. Such learning environments can facilitate the development of passing accuracy, coordination, and teamwork among students. Therefore, examining the effectiveness of the TGT cooperative learning model provides valuable insights into how innovative pedagogical strategies can improve football learning outcomes in primary education contexts.

Based on the issues identified above, this study aims to examine the influence of the Teams Games Tournament (TGT) cooperative learning model on the football passing ability of elementary school students at SDN Tanggulun 2. Specifically, the study seeks to determine whether implementing the TGT model can significantly improve students' passing skills compared with conventional teaching methods in physical education classes. The hypothesis proposed in this study is that the application of the cooperative learning model of the TGT type significantly improves students' football passing ability compared with traditional instructional approaches. The results of this study are expected to contribute to the development of more effective teaching strategies in physical education and provide empirical evidence regarding the role of cooperative learning in enhancing fundamental sport skills among elementary school students.

2. METHOD

Research methods are defined as scientific approaches for obtaining data with specific purposes and uses. The research method used is an experiment. Experimental research is a systematic method for establishing causal relationships (Mohajan, 2020). This research uses a quasi-experimental method, also known as a pseudo-experiment. This experimental method is

an extension of the true experimental method, which is difficult to implement (De Allegri et al., 2019). The definition of quasi-experiment is that in this quasi-experimental method, there is a control group, so it cannot fully function to control external variables that affect the implementation of the experiment. This method was developed to address the difficulties in determining control groups in research.

2.1 Participants

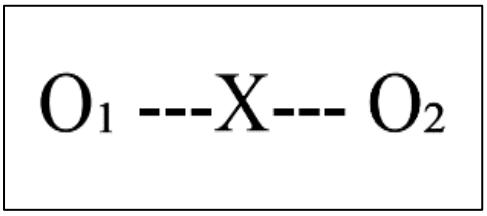
Generalization consists of subjects with certain quantities and characteristics determined by the researcher to be studied and then concluded. Based on the provided explanation, the population of this study consists of all male students in grades 3 A and B at SDN Tanggulun 2, totaling 20 individuals. A sample is a part of the size and composition of the population (Nurhidayati et al., 2022). In this study, the sample used is a probability sample. Probability Sampling is a sampling technique that gives all members of the population an equal chance to be selected as sample members. Meanwhile, the sampling technique was conducted using the saturated sampling technique on 20 people. The saturated sampling technique is a sampling determination technique where all members of the population are used as samples (Martínez-Mesa et al., 2016).

2.2 Research Design

Research design is the conceptualization of a phenomenon or social phenomenon that will be broken down into research variables down to the indicator level **(Slater & Hasson, 2025)**. A design contains the essential steps that must be undertaken by the researcher, both in the initial planning, implementation, and conclusion. In this study, the research investigates the effectiveness of implementing the cooperative learning model of the team games tournament type on the passing ability in football of students at SDN Tanggulun 2 using an experimental method with a one-group pretest-posttest design (Figure 1).

Figure 1.

Pretest-Posttest Control Group Design



Explanation:

X : Treatment

O1 : Observation 1 (Pretest)

O2 : Observation 2 Posttest

2.3 Instruments

To determine the data needed for this research, the author used a test instrument. The test instrument is a method that can be used or a procedure that needs to be followed in the context of measurement and assessment in the field of sports. A test is one way to indirectly interpret the extent of a person's ability through their response to stimuli or questions. The preparation of this test procedure is intended to obtain results that align with what is being measured, so that the competence or ability being measured is reflected in the results obtained. The type of test conducted is a passing ability test (BenOunis et al., 2012). The assessment in the test is the time taken from start to finish. This research was conducted over 10 sessions (pretest & posttest, and 8 treatment sessions). The treatment was conducted in 10 sessions. The frequency of treatment is 3-4 times a week. In one session, the treatment involves exercises for 60-90 minutes.

2.4 Procedures

The research procedure used in this study is the experimental research method with steps in the treatment administration. In this study, the steps include giving a pre-test first, then providing the treatment, and finally administering a post-test to the sample. Conducted over 10 meetings. The instrument in this study uses a basic football skills test, which in this research is measured by passing. This research lasted for about five weeks and was conducted in ten sessions held twice a week. Research data were collected from various sources related to the study. Data collection in this research was conducted using observation, tests, and documentation. The selection of this technique is based on the characteristics of the data needed to answer the problem formulation and test the research hypothesis.

2.5 Data Analysis

The data obtained from the pretest and posttest measurements were analyzed using descriptive and inferential statistical procedures with the assistance of IBM SPSS Statistics version 26. Descriptive statistics were first employed to summarize the characteristics of the data, including the mean, standard deviation, minimum score, maximum score, and score range for both the experimental and control groups. These descriptive analyses were conducted to provide an initial overview of students' passing ability before and after the intervention. Prior to hypothesis testing, a normality test was performed to examine whether the distribution of the data met the assumption of normality required for parametric statistical analysis. The normality of the data was tested using the Shapiro–Wilk test with a significance level of 0.05. In addition to statistical testing, the distribution of the data was also examined visually through Q–Q plots to confirm that the observed values were distributed approximately along the diagonal line, indicating a normal distribution.

After confirming that the data met the normality assumption, hypothesis testing was conducted using an independent sample t-test to determine whether there was a statistically significant difference between the posttest scores of the experimental group, which received the Teams Games Tournament cooperative learning model, and the control group, which received conventional instruction. The test was conducted using a two tailed significance level of $\alpha = 0.05$. If the obtained significance value (p-value) was less than 0.05, the null hypothesis was rejected, indicating that the TGT cooperative learning model had a significant effect on students' football passing ability. Furthermore, the magnitude of learning improvement was examined using the Normalized Gain (N-Gain) score, which measures the effectiveness of the intervention by

comparing the difference between pretest and posttest scores relative to the maximum possible improvement. The N-Gain values were then categorized into three levels of improvement, namely high, medium, and low, to determine the effectiveness of the learning model in improving students' passing skills.

3. RESULTS

This section presents the findings of the study regarding the effect of the Teams Games Tournament cooperative learning model on students' football passing ability. The results are organized based on descriptive statistics of the pretest and posttest scores, comparisons between experimental and control groups, and the magnitude of learning improvement following the implementation of the learning intervention.

Tabel 1.

Results of the Initial Pretest Short Passing Experimental Class

Participant	Short Passing Test			
	Accuracy	Strength	Technique	Total Score
1	4	2	2	8
2	6	4	6	16
3	2	2	2	6
4	2	4	2	8
5	4	2	4	10
6	4	2	2	8
7	6	4	2	12
8	2	2	2	6
9	2	4	2	8
10	4	2	4	10

Tabel 2.

JUMORA: JURNAL MODERASI OLAHRAGA
E-ISSN: 2797-8761
Volume 6, No. 1, June 2026
DOI: 10.53863/mor.v6i1.1765
Universitas Ma'arif Nahdlatul Ulama Kebumen

Results of the Initial Pretest Long Passing Experimental Class

Participant	Long Passing Test			
	Accuracy	Strength	Technique	Total Score
1	2	4	2	8
2	4	4	4	12
3	2	4	2	8
4	4	2	2	8
5	4	2	4	10
6	2	4	2	8
7	4	4	6	14
8	2	2	4	8
9	4	4	2	10
10	2	4	2	8

The initial measurement of students' passing ability was conducted through a pretest administered to both the experimental and control groups before the implementation of the learning treatment. The detailed results of the experimental group's initial performance are presented in Table 1 and Table 2, which show the pretest results for short passing and long passing skills. The data indicate that the students' initial passing ability varied across individuals, with scores reflecting aspects of accuracy, strength, and technique. Overall, the results demonstrate that most students in the experimental group still exhibited relatively moderate levels of passing proficiency before receiving the learning intervention.

JUMORA: JURNAL MODERASI OLAHRAGA
E-ISSN: 2797-8761
Volume 6, No. 1, June 2026
DOI: 10.53863/mor.v6i1.1765
Universitas Ma'arif Nahdlatul Ulama Kebumen

Table 3.

Results of the Initial Posttest Short Passing Control Class

Participant	Short Passing Test			
	Accuracy	Strength	Technique	Total Score
1	4	4	2	10
2	2	4	2	8
3	6	4	2	12
4	4	2	2	8
5	2	4	2	8
6	4	2	2	8
7	4	2	2	8
8	4	2	2	8
9	4	2	2	8
10	2	2	4	8

Table 4.

Results of the Initial Posttest Long Passing Control Class

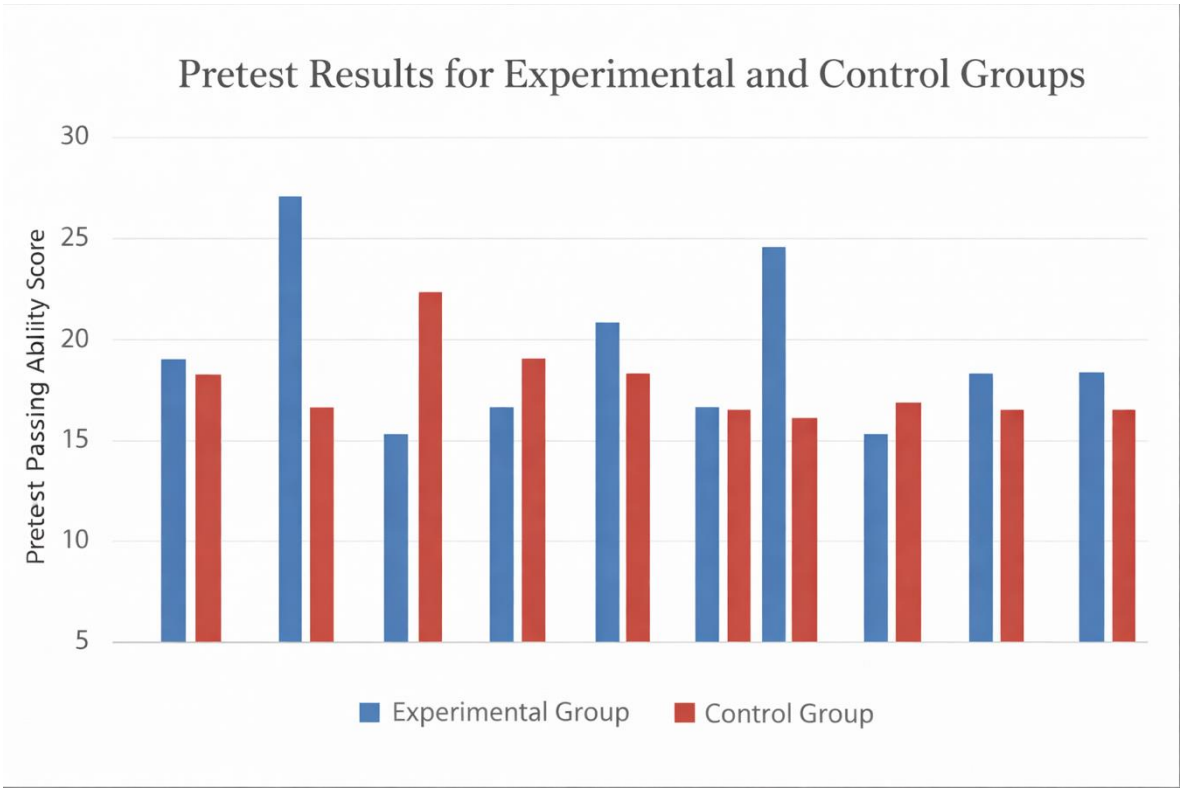
Participant	Long Passing Test			
	Accuracy	Strength	Technique	Total Score
1	4	2	2	8
2	4	2	2	8
3	4	2	4	10
4	2	4	4	10
5	4	2	4	10
6	4	2	2	8
7	4	2	2	8
8	2	2	4	8
9	2	2	4	8
10	2	2	2	6

JUMORA: JURNAL MODERASI OLAHRAGA
E-ISSN: 2797-8761
Volume 6, No. 1, June 2026
DOI: 10.53863/mor.v6i1.1765
Universitas Ma'arif Nahdlatul Ulama Kebumen

Similarly, the pretest performance of the control group is presented in Table 3 and Table 4, which display the short passing and long passing test results prior to treatment. The distribution of scores indicates that students in the control group also demonstrated relatively limited mastery of football passing techniques at the beginning of the study. The similarity of performance levels between the two groups suggests that both groups started with comparable initial abilities before the experimental treatment was implemented.

Figure 2.

Diagram Pretest Passing Ability



To provide a clearer overview of the initial passing ability distribution, the pretest results are visually summarized in Figure 2, which illustrates the comparison of passing ability scores before the learning intervention. The diagram shows that both groups demonstrated relatively similar levels of performance prior to the implementation of the cooperative learning model, indicating that the groups had comparable starting conditions for the experimental study.

JUMORA: JURNAL MODERASI OLAHRAGA
E-ISSN: 2797-8761
Volume 6, No. 1, June 2026
DOI: 10.53863/mor.v6i1.1765
Universitas Ma'arif Nahdlatul Ulama Kebumen

Tabel 6.

Results of the average and standard deviation calculations

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Dev.	Variance
Pre-Test	10	14	14	28	18.60	4.812	23.156
Post-Test	10	12	34	46	40.00	3.528	12.444
Pre-Test Control	10	8	14	22	17.00	2.160	4.667
Post-Test Control	10	12	16	28	23.40	4.719	22.267

Source: Data processing for the 2025 research

After the implementation of the learning intervention over ten sessions, a posttest was conducted to evaluate students' improvement in passing ability. The descriptive statistical results of the pretest and posttest scores are presented in Table 6. The table indicates that the experimental group achieved a mean posttest score of 40.00, which represents a substantial increase compared to the pretest mean score of 18.60. In contrast, the control group achieved a posttest mean score of 23.40, showing only a moderate improvement compared to its pretest mean score of 17.00. These results demonstrate that students who participated in the cooperative learning model showed a greater improvement in passing ability than those who experienced conventional learning.

Tabel 7.

Independent Sampe t Test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TGT	Equal variances assumed	2.056	.169	8.910	18	.000	16.600	1.863	12.686	20.514
	Equal variances not assumed			8.910	16.666	.000	16.600	1.863	12.663	20.537

Source: Data processing for the 2025 research

JUMORA: JURNAL MODERASI OLAHRAGA
E-ISSN: 2797-8761
Volume 6, No. 1, June 2026
DOI: 10.53863/mor.v6i1.1765
Universitas Ma'arif Nahdlatul Ulama Kebumen

Further analysis was conducted to determine whether the difference in performance between the experimental and control groups was statistically significant. The results of the independent sample t-test, presented in Table 7, show a significance value of 0.000, which is lower than the predetermined significance level of 0.05. This finding indicates that there is a statistically significant difference in passing ability between students who learned using the Teams Games Tournament cooperative learning model and those who learned using conventional teaching methods. In addition, the group statistics reveal that the mean posttest score of the experimental group (40.00) was considerably higher than that of the control group (23.40), confirming the effectiveness of the TGT learning model in improving students' football passing skills.

Tabel 8.

Descriptive data of experiment and control class

Descriptives

	Class			Statistic	Std. Error
NGain_%	**Experiment**	Mean		25.9125	2.53451
		95% Confidence Interval for Mean	Lower Bound	20.1790	
			Upper Bound	31.6459	
		5% Trimmed Mean		26.2531	
		Median		27.7003	
		Variance		64.237	
		Std. Deviation		8.01482	
		Minimum		10.81	
		Maximum		34.88	
		Range		24.07	
		Interquartile Range		10.42	
		Skewness		-.994	.687
		Kurtosis		.159	1.334
	Control	Mean		7.7265	1.50498
		95% Confidence Interval for Mean	Lower Bound	4.3220	
			Upper Bound	11.1310	
		5% Trimmed Mean		7.7914	
		Median		7.5047	
		Variance		22.650	
		Std. Deviation		4.75917	

	Minimum	.00	
	Maximum	14.29	
	Range	14.29	
	Interquartile Range	7.82	
	Skewness	-.194	.687
	Kurtosis	-1.184	1.334

Source: Data processing for the 2025 research

To further examine the magnitude of learning improvement, the study also calculated the Normalized Gain (N-Gain) score, which measures the extent of improvement between pretest and posttest performance. The detailed results are presented in Table 8, which shows that the experimental group obtained an average N-Gain score of 25.91, corresponding to approximately 55% improvement, which falls within the moderate improvement category. Meanwhile, the control group obtained an average N-Gain score of 7.72, corresponding to approximately 7% improvement, which falls within the low improvement category. These results indicate that the cooperative learning model of the Teams Games Tournament type provides a greater learning impact compared with conventional teaching approaches.

Overall, the results demonstrate that the implementation of the Teams Games Tournament cooperative learning model significantly improved students' football passing ability compared with conventional teaching methods. The descriptive statistics, hypothesis testing results, and N-Gain analysis consistently indicate that students who participated in cooperative learning activities experienced greater skill development in passing techniques. These findings highlight the potential of cooperative learning strategies to create more engaging and effective physical education learning environments that support the development of students' fundamental football skills.

4. DISCUSSIONS

The findings of this study demonstrate that the implementation of the Teams Games Tournament (TGT) cooperative learning model significantly improved students' football passing ability compared with conventional instructional approaches. The results show a substantial increase in the experimental group's posttest mean score compared with the control group, indicating that cooperative learning strategies can effectively enhance motor skill acquisition in physical education contexts. This improvement suggests that structured collaborative learning environments can provide students with more opportunities to practice technical skills, interact with peers, and develop movement proficiency through repeated game-based experiences.

One explanation for the improvement in students' passing ability lies in the pedagogical principles underlying cooperative learning. Cooperative learning emphasizes positive interdependence, individual accountability, and collaborative interaction among students. These elements encourage active participation and shared responsibility in the learning process. Recent studies indicate that cooperative learning environments can improve students' motor coordination, teamwork, and physical performance because learners engage in mutual feedback and collective problem-solving during practice activities. In physical education settings, such

collaborative interactions help students refine movement patterns and develop technical skills more effectively than passive instructional methods (Jones, 2025).

The effectiveness of the TGT model observed in this study can also be explained by the integration of game-based learning and competitive elements within cooperative group activities. The TGT structure allows students to practice sport techniques in small groups and then apply those skills in tournament-based activities. This approach creates a learning environment that combines cooperation and healthy competition, which can increase students' motivation and engagement during physical education classes. Previous research has shown that the TGT model can enhance students' motivation and participation because it encourages active involvement and creates a dynamic learning atmosphere where students feel responsible for their group performance (BenOunis et al., 2012; Jones, 2025).

Another important factor contributing to the improvement in passing ability is the opportunity for repeated practice in authentic game situations. In cooperative learning environments, students often practice technical skills through small-sided games or structured team activities that simulate real sport scenarios. Such learning conditions allow students to refine movement techniques through continuous practice and immediate feedback from peers and instructors. Research in sports pedagogy indicates that repeated practice in contextualized game situations significantly supports the development of fundamental motor skills and technical performance in young athletes (Cruz, 2024; Özcan et al., 2025).

The results of this study also align with broader research demonstrating that cooperative learning can enhance both motor skill development and social interaction among students. Cooperative learning frameworks encourage communication, collaboration, and shared responsibility, which not only improve learning outcomes but also promote positive social behaviors during physical education activities. Studies have shown that cooperative learning approaches can improve students' social competence, motivation, and emotional engagement in physical education settings, thereby creating more inclusive and supportive learning environments (Arufe-Giráldez et al., 2023).

Furthermore, the difference in learning improvement between the experimental and control groups highlights the limitations of traditional teacher-centered instruction in physical education. Conventional teaching approaches often rely on direct instruction and demonstration without providing sufficient opportunities for students to actively engage in skill practice or peer interaction. In contrast, cooperative learning models place students at the center of the learning process, allowing them to learn through collaboration, experimentation, and reflection. This learner-centered approach has been widely recognized as an effective strategy for improving both cognitive understanding and motor skill acquisition in sports education.

From a practical perspective, the findings of this study suggest that physical education teachers should consider integrating cooperative learning strategies, particularly the TGT model, into football instruction at the elementary school level. By creating learning environments that encourage teamwork, active participation, and game-based practice, teachers can support the development of students' fundamental football skills more effectively. Such instructional strategies may also contribute to improving students' motivation toward physical activity and promoting long-term engagement in sports participation.

Overall, the results of this study confirm that the Teams Games Tournament cooperative

learning model provides a meaningful pedagogical alternative for improving students' football passing ability in elementary school physical education. The integration of collaborative learning structures, competitive gameplay, and repeated practice opportunities creates an effective learning environment that supports both motor skill development and student engagement. These findings reinforce the growing body of research suggesting that cooperative learning models can play a crucial role in enhancing the quality and effectiveness of physical education instruction.

5. CONCLUSIONS

This study set out to examine whether the implementation of the Teams Games Tournament cooperative learning model could improve the football passing ability of elementary school students compared with conventional instructional approaches. The research objective stated in the Introduction emphasized the need for more engaging and student-centered instructional strategies to enhance fundamental football skills in physical education. The findings presented in the Results and interpreted in the Discussion confirm that this expectation was successfully achieved. The empirical evidence demonstrates that students who participated in the cooperative learning environment showed significantly higher improvements in passing ability compared with those who experienced traditional instruction. The statistical analysis, including descriptive results, hypothesis testing, and normalized gain analysis, consistently indicates that the TGT learning model provides a meaningful pedagogical advantage for developing football passing skills among elementary school students.

These findings highlight the importance of collaborative and game-based learning environments in supporting motor skill acquisition in physical education. By integrating structured teamwork, competitive gameplay, and repeated practice opportunities, the TGT model creates an interactive learning atmosphere that promotes both technical skill development and student engagement. In this context, cooperative learning approaches offer an effective alternative to conventional teacher centered instruction, particularly in teaching fundamental sport skills during the early stages of physical education. The results of this study also provide practical implications for physical education teachers and curriculum developers. The successful implementation of the TGT model suggests that cooperative learning strategies can be incorporated into football instruction to improve students' participation, motivation, and skill performance. Such instructional innovations may contribute to creating more dynamic and student-oriented learning environments in school physical education programs.

Despite these contributions, this study is limited by the relatively small sample size and the focus on a single school context. Therefore, future research is encouraged to expand the scope of investigation by involving larger and more diverse student populations, different age groups, and various sports learning contexts. Further studies may also explore the integration of cooperative learning with emerging pedagogical approaches, such as technology supported instruction or game-based learning models, to enhance the effectiveness of physical education teaching practices. Overall, this study contributes to the growing body of research on innovative teaching strategies in physical education by providing empirical evidence that the Teams Games Tournament cooperative learning model can significantly improve students' football passing ability. The findings suggest promising prospects for the continued development and application of cooperative learning approaches in sports education, particularly in fostering more active, collaborative, and skill-oriented learning experiences for young learners.

Acknowledgment

The authors would like to express their sincere gratitude to SDN Tanggulun 2 for providing the opportunity and support to conduct this research within the school environment. The cooperation of the school administration, physical education teachers, and students played an essential role in facilitating the successful implementation of the research activities. The authors also extend their appreciation to STKIP Purwakarta for providing academic support and an encouraging research environment that enabled the completion of this study. Institutional support in the form of academic guidance and research facilitation greatly contributed to the development and completion of this manuscript. In addition, the authors would like to acknowledge the valuable academic contribution from colleagues at the Faculty of Sport Science and Coaching, Universiti Pendidikan Sultan Idris, Malaysia, whose insights and scholarly discussions helped strengthen the conceptual and methodological aspects of this research. Finally, the authors are grateful to all individuals who indirectly contributed to this study through constructive feedback, academic discussions, and support during the research process. Their encouragement and intellectual contributions have been instrumental in improving the quality and clarity of this article.

REFERENCES

Akil, M., Tokay, B., & Güngör, M. G. (2024). Cognitive health outcomes of fundamental motor skill applications in children through cooperative learning method. *BMC Psychology*, *12*(1), 522. https://doi.org/10.1186/s40359-024-02006-y

Arufe-Giráldez, V., Sanmiguel-Rodríguez, A., Ramos-Álvarez, O., & Navarro-Patón, R. (2023). News of the Pedagogical Models in Physical Education—A Quick Review. *International Journal of Environmental Research and Public Health*, *20*(3), 2586. https://doi.org/10.3390/ijerph20032586

Aslam, S., Shi, Y., & Zhao, C. (2025). Addressing physical skills and mental health: the role of modern teaching approaches in non-athlete university PE programs. *Frontiers in Psychology*, *16*. https://doi.org/10.3389/fpsyg.2025.1664027

BenOunis, O., BenAbderrahman, A., Chamari, K., Ajmol, A., BenBrahim, M., Hammouda, A., Hammami, M.-A., & Zouhal, H. (2012). Association of Short-Passing Ability with Athletic Performances in Youth Soccer Players. *Asian Journal of Sports Medicine*, *4*(1). https://doi.org/10.5812/asjsm.34529

Chen, K., Chen, C., Yang, J., & Li, Z. (2026). The impact of peer effects on adolescents' physical exercise: a meta-synthesis study. *Frontiers in Psychology*, *16*. https://doi.org/10.3389/fpsyg.2025.1748992

Cruz, R. R. dela. (2024). Enhancing Mini Volleyball Forearm Passing Performance with Small-Sided Games and Drill Practice. *British Journal of Multidisciplinary and Advanced Studies*, *5*(1), 148–160. https://doi.org/10.37745/bjmas.2022.0423

De Allegri, M., Lohmann, J., Souares, A., Hillebrecht, M., Hamadou, S., Hien, H., Haidara, O., & Robyn, P. J. (2019). Responding to policy makers' evaluation needs: combining experimental and quasi-experimental approaches to estimate the impact of performance based financing in Burkina Faso. *BMC Health Services Research*, *19*(1), 733. https://doi.org/10.1186/s12913-019-4558-3

Endrawan, I. B., Martinus, M., Sukmawati, N., & Yuniarto, E. (2023). Enhancing Learning Outcomes Rhythmic Gymnastics Learning Model Through Teams Games Tournaments. *Kinestetik : Jurnal Ilmiah Pendidikan Jasmani*, *7*(4), 923–930. https://doi.org/10.33369/jk.v7i4.27233

Feng, D., Cossich, V. R. A., Abdelrasoul, E., Campelo, A. M., & Katz, L. (2025). The impact of video performance technology and peer-to-peer learning on table tennis skill acquisition in elementary students. *Frontiers in Sports and Active Living*, *7*. https://doi.org/10.3389/fspor.2025.1653334

Gao, Y. (2025). The role of artificial intelligence in enhancing sports education and public health in higher education: innovations in teaching models, evaluation systems, and personalized training. *Frontiers in Public Health*, *13*. https://doi.org/10.3389/fpubh.2025.1554911

Günar, B. B., & Bavlı, Ö. (2025). Effectiveness of virtual reality games on the specific sport skills of adolescents. *BMC Sports Science, Medicine and Rehabilitation*, *17*(1), 194. https://doi.org/10.1186/s13102-025-01243-x

Jones, L. (2025). Associate teachers' perceptions of reciprocal teaching and learning in physical education lessons. *Curriculum Studies in Health and Physical Education*, *16*(2), 259–272. https://doi.org/10.1080/25742981.2024.2363936

Liu, S., Wu, C., Xiao, S., Liu, Y., & Song, Y. (2024). Optimizing young tennis players' development: Exploring the impact of emerging technologies on training effectiveness and technical skills acquisition. *PLOS ONE*, *19*(8), e0307882. https://doi.org/10.1371/journal.pone.0307882

Martínez-Mesa, J., González-Chica, D. A., Duquia, R. P., Bonamigo, R. R., & Bastos, J. L. (2016). Sampling: how to select participants in my research study? *Anais Brasileiros de Dermatologia*, *91*(3), 326–330. https://doi.org/10.1590/abd1806-4841.20165254

Mohajan, H. K. (2020). Quantitative Research: A Successful Investigation in Natural and Social Sciences. *Journal of Economic Development, Environment and People*, *9*(4). https://doi.org/10.26458/jedep.v9i4.679

Nurhidayati, Nunik Kusnilawati, & Aprih Santoso. (2022). Employee Satisfaction: Determinants and Its Effect on Performance. *Jurnal Manajemen*, *26*(1), 67–81. https://doi.org/10.24912/jm.v26i1.838

Özcan, B., Çelikel, B. E., Erdoğan, R., Karadağ, M., Aydoğdu, V., Uğurlu, F. M., Bozkurt, E., Turan, M., Koçal, M., & Orhan, S. (2025). The effect of 12 weeks of basic soccer training on violence tendency, psychological resilience, social anxiety in 12–14 years old children. *Frontiers in Psychology*, *16*. https://doi.org/10.3389/fpsyg.2025.1693298

Slater, P., & Hasson, F. (2025). Quantitative Research Designs, Hierarchy of Evidence and Validity. *Journal of Psychiatric and Mental Health Nursing*, *32*(3), 656–660. https://doi.org/10.1111/jpm.13135

Tomčić, J., Šarabon, N., & Marković, G. (2021). Factorial Structure of Trunk Motor Qualities and Their Association with Explosive Movement Performance in Young Footballers. *Sports*, *9*(5), 67. https://doi.org/10.3390/sports9050067

Xie, D., Chen, B., Li, H., & Huang, Q. (2025). Enhancing table tennis performance and physical

fitness through digital technology: a quasi-experimental study based on the TPACK framework. *Frontiers in Sports and Active Living*, *7*. https://doi.org/10.3389/fspor.2025.1595455

Zhou, T., Wang, H., & Li, D. (2023). Focusing on the value of cooperative learning in physical education: a bibliometric analysis. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1300986