

Team Games Tournament Type Cooperative Learning Model on the Football Learning Outcomes at High School

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ABSTRACT

Physical education learning, particularly in soccer material at High School 5 Pangkep, requires an innovative approach to optimize student learning outcomes that have not yet reached the maximum standard. This study aims to determine the effect of the implementation of the Teams Games Tournament (TGT) learning model on soccer learning outcomes in grade XI students at High School 5 Pangkep. This type of research is an experimental study with a quantitative approach involving a comparison between the experimental group (TGT model) and the control group (conventional model). The research sample consisted of 30 students consisting of 13 girls and 17 boys. Data was analyzed using descriptive and inferential statistics through the SPSS 27 program. The results showed that the TGT model was significantly more effective than the conventional approach in improving learning outcomes. This was evidenced by a substantial increase in the average score of the experimental group, from 67.20 in the pretest to 86.67 in the posttest, exceeding the final score of the control group of 75.27. The t-test supported this finding with a significance value of 0.001 ($p < 0.05$), confirming that the TGT intervention had a real impact on mastery of soccer material. This research contributes to physical education teachers in choosing varied learning strategies that can create a competitive yet fun atmosphere, while also having a positive impact on the effectiveness of learning in schools.

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1. INTRODUCTION

Education is a fundamental need in human life and serves as the primary instrument for developing the potential of the younger generation (Ahmad et al., 2023). Through a structured educational process, individuals not only acquire cognitive knowledge but also internalize spiritual values, social attitudes, creativity, and the skills necessary to become responsible citizens (Lyz & Opryshko, 2016; Shavkidinova et al., 2023).

Therefore, the essence of education lies in the ongoing effort to shape individuals who are devout and highly competitive amidst the dynamics of the times (Adeoye, 2024).

In the context of school learning, the role of teachers is the primary determinant of the success or failure of achieving curricular objectives (De Smul et al., 2019; Jarl et al., 2021). Teachers are fully responsible for managing various supporting components, from student readiness, resource utilization, and media use to creating a conducive learning environment. The quality of the process designed by teachers is directly proportional to student learning outcomes (Kumpas-Lenk et al., 2018); therefore, strong pedagogical competence is required to develop effective and innovative instructional designs (Abuhassna & Alnawajha, 2023; Sasson et al., 2022).

As educators, teachers are required to be able to create a creative learning atmosphere by optimizing school facilities to achieve ideal learning conditions (Shermukhammadov, 2022). Specifically in Physical Education, Sports, and Health (PJOK), the achievement of learning objectives depends heavily on the appropriate selection and implementation of learning models (Anwar et al., 2024; Bachtiar, 2024). The right model is not simply about delivering physical material; it must also integrate motor activities with active student engagement in a supportive environment.

One of the challenges in Physical Education (PJOK) learning, particularly in soccer, is student boredom with conventional learning models, which tend to be monotonous (Bernhardin, 2023). The Team Games Tournament (TGT) model presents an alternative solution believed to facilitate the understanding of basic soccer techniques through social interaction and structured practice (Budi et al., 2025; Gunawan et al., 2023). As part of cooperative learning, TGT prioritizes small group collaboration that functions as peer tutoring, allowing for a more natural and inclusive skill transfer (Prasetyo & Amir, 2022; Suryansyah et al., 2025).

The relevance of the TGT model in improving learning effectiveness is supported by various global literature. Qushwa and Sulala (2023) and Shofa and Suroto (2024) emphasize that TGT transforms the teacher's role into a dynamic facilitator, rather than simply a one-way instructor. Furthermore, peer support in TGT significantly helps students with low motivation to engage more actively (Astrina et al., 2026; Kharisma et al., 2025). Technical excellence is also highlighted by Fernandez-Rio et al. (2017), who note that combining TGT with technical materials significantly accelerates students' mastery of passing and dribbling skills.

Empirical evidence demonstrates the superiority of this model over traditional methods. Research by Cahyadi (2022) confirmed that TGT significantly improved high school students' soccer skills. In addition to physical skills, Putra et al. (2023) also demonstrated that this model effectively increased students' motivation to participate in Physical Education (PJOK) lessons, which is often a major obstacle to successful practical learning on the field.

The uniqueness of this research lies in the synthesis of improving technical soccer skills with strengthening socio-competitive dynamics through a modified tournament structure. Unlike previous research that focused solely on final results (Risjanna et al., 2019; Perdana et al., 2023), this study examines how the healthy competitive elements

of TGT can mitigate students' psychological barriers to learning complex basic techniques. Therefore, the implementation of the TGT model at High School is expected to become a prototype for sports learning that not only prioritizes physical performance but also systematically builds students' collaborative character. Therefore, this study aims to determine the effect of the implementation of the Teams Games Tournament (TGT) learning model on soccer learning outcomes in grade XI students of High School.

2. METHOD

The research design used was a quasi-experimental design with a two-group pretest-posttest. In this design, the subjects were divided into an experimental group receiving the TGT model and a control group using a conventional learning model. A sample of 30 students was selected for the participants, with each group's abilities measured before and after the intervention to objectively assess the effectiveness of the model.

This research took place at the field of High School 5 Pangkep, located on Kalukalukuang Island, Pangkep Regency. This location was selected based on the specific characteristics of the area to assess the effectiveness of the learning model in an island environment. This study involved two main categories of variables: the independent variable, the Team Games Tournament (TGT) cooperative learning model, and the dependent variable, which focused on the soccer learning outcomes of eleventh-grade students at High School 5 Pangkep.

The research instruments were designed in a variety of ways to cover motor and cognitive aspects through a series of structured, modified games. Some of the instruments used included cross-feed, SOS race, rondo, and the integration of local wisdom through the traditional sandal-throwing game. The use of diverse instruments aims to create a healthy competitive atmosphere while comprehensively mapping students' technical soccer abilities within the TGT model framework.

The data collection process was conducted holistically, combining several key techniques to ensure the validity of the findings. The researchers used structured observation to monitor student activities, practical tests to measure soccer learning outcomes, and interviews to explore students' subjective responses to the learning model. Furthermore, documentation techniques were applied to record the entire research process as authentic evidence of the field experiment.

Data analysis was conducted quantitatively using SPSS version 27 statistical software to ensure calculation accuracy. The analysis phase began with data requirements testing, which included a normality test to determine data distribution and a homogeneity test to ensure equality of variance between groups. Once the requirements were met, hypothesis testing was conducted using a t-test to determine the significance of the TGT model's influence on learning outcomes. All data presentation in the report, both in tables and figures, is arranged symmetrically (centered) and referenced consistently throughout the manuscript.

3. RESULTS AND DISCUSSION

Results

Building upon a series of studies conducted through a 12-meeting learning program, the data were comprehensively analyzed to compare the effectiveness of conventional learning models and the Team Games Tournament (TGT) model applied to the research sample. All collected data then underwent rigorous statistical analysis, including normality tests to determine data distribution, homogeneity tests to ensure equality of variance, and hypothesis testing to determine the significance of the intervention's effect on student learning outcomes.

Descriptive Analysis

Results of Descriptive Analysis of Pre-Test and Post-Test

Descriptive analysis of the pre-test and post-test results indicated a significant transformation in participants' competency achievement during the evaluation period. Statistical data revealed a substantial increase in average scores, accompanied by a decrease in variance in post-test results, indicating a more consistent and equitable understanding of the material across the target group. This positive trend provides empirical validation of the effectiveness of the intervention and confirms that the applied methodology was able to mitigate initial knowledge gaps in a measurable and systematic manner.

Table 1. Results of Descriptive Analysis of Control Class (Conventional Model)

| Statistics | Pretest | Posttest |
|--------------------|---------|----------|
| Maxsimun Score | 74 | 82 |
| Minimum Score | 60 | 70 |
| Number Of Sampels | 15 | 15 |
| Mean Score | 67.00 | 75.27 |
| Standard Deviation | 4.472 | 4.096 |

The results of descriptive analysis of the learning outcomes of students of High School 5 Pangkep in soccer using conventional learning models show a stable increase in competence between the initial and final stages of the evaluation. Pre-test data recorded an average score of 67.00 with a score range of 60 to 74, while in the post-test stage, the average score increased significantly to 75.27 with a maximum score of 82. In addition to the increase in the average, a decrease in the standard deviation value from 4.472 to 4.096 indicates that the distribution of student abilities became more even and consistent after being given treatment, which confirms positive progress in collective mastery of the material.

Table 2. Results of Descriptive Analysis of Experimental Class (TGT Learning Model)

| Statistics | Pretest | Posttest |
|----------------|---------|----------|
| Maxsimun Score | 75 | 95 |
| Minimum Score | 60 | 77 |

| Statistics | Pretest | Posttest |
|--------------------|---------|----------|
| Number Of Sampels | 15 | 15 |
| Mean Score | 67.20 | 86.67 |
| Standard Deviation | 4.769 | 16.079 |

The results of descriptive analysis on the implementation of the Team Games Tournament (TGT) learning model on students of High School 5 Pangkep showed a very significant increase in soccer learning performance. Pre-test data showed an initial average score of 67.20 with a minimum score range of 60 to a maximum of 75, but after the TGT model intervention was carried out, the average score jumped drastically to 86.67 in the post-test stage with a maximum score reaching 95. Although the standard deviation increased from 4.769 to 6.079 which reflects a wider variation in individual achievement at high scores, the shift in the minimum score from 60 to 77 proves that this learning model is effectively able to raise the competency standards of all students to a much more progressive level compared to the previous method.

Inferential Analysis Results

Normality Test

The normality test was applied to determine whether the data from the control and experimental classes were normally distributed. This test was conducted using the Kolmogorov-Smirnov and Shapiro-Wilk approaches, which aim to ensure that the statistical analysis approach selected is appropriate to the characteristics of the data obtained. The decision-making criteria for the normality test are as follows:

Table 3. Normal Test Results

| Results | Class | Kolmogorov-Smirnov ^a | | | Shapiro-Wilk | | |
|---------|--------------------|---------------------------------|----|-------|--------------|----|-------|
| | | Statistic | df | Sig. | Statistic | df | Sig. |
| Results | Control Class | 0.121 | 15 | .200* | 0.934 | 15 | 0.317 |
| | Experimental Class | 0.130 | 15 | .200* | 0.932 | 15 | 0.293 |

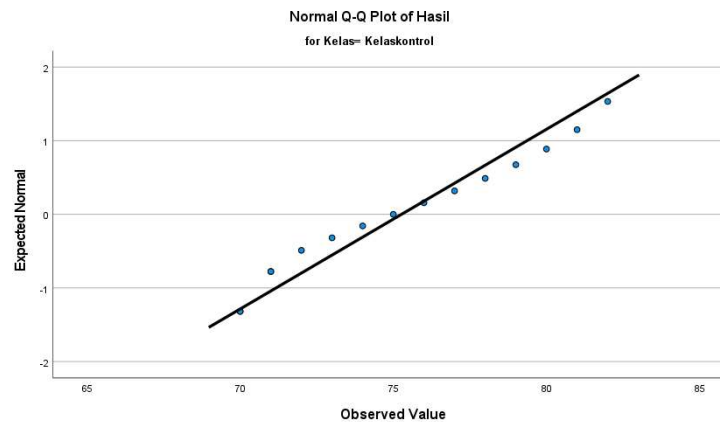


Figure 1. Control Class Distribution Diagram

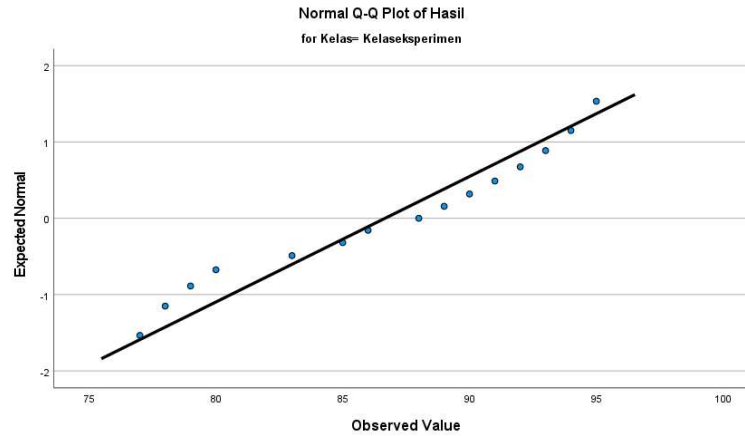


Figure 2. Experimental Class Distribution Diagram

Table 3, the results of the normality test using the Kolmogorov-Smirnov and Shapiro Walk, it can be concluded that most of the data follows a normal distribution. Especially in the experimental group. The control group has a significance value > 0.05 (0.200 for Kolmogorov-Smirnov and 0.317 for Shapiro-Wilk), which means it is normally distributed and the experimental group has a significant value > 0.05 (0.200 for Kolmogorov-Smirnov and 0.4 for Shapiro-Wilk) which means it is normally distributed.

Homogeneity Test

The homogeneity test is conducted to determine whether the data in both groups come from a homogeneous population. This homogeneity test is performed on the posttest of both groups with a predetermined level of $p > 0.5$.

Table 4. Homogeneity Test Results

| Variable | Measurement Basis | Levene Statistic | df1 | df2 | Sig. |
|----------------------------|--------------------------------------|------------------|-----|--------|-------|
| Football Learning Outcomes | Based on Mean | 3.421 | 1 | 28 | 0.075 |
| | Based on Median | 2.504 | 1 | 28 | 0.125 |
| | Based on Median and with adjusted df | 2.504 | 1 | 22.744 | 0.127 |
| | Based on trimmed mean | 3.393 | 1 | 28 | 0.076 |

In Table 4 above, the significance value (Sig.) in the Based on Mean row shows 0.075. Because this value is greater than the specified significance level ($0.075 > 0.05$), it can be concluded that the variance of the soccer learning outcomes data is homogeneous. Thus, the homogeneity requirement in parametric statistical tests has been met.

Hypothesis Testing

Hypothesis testing uses a t-test, which can be performed provided the data being studied are normally distributed. The purpose of this hypothesis testing is to examine the effect of the TGT (Team Games Tournament) cooperative learning model on the

soccer learning outcomes of eleventh-grade students at Pangkep 5 State Senior High School. The hypothesis testing was conducted on the posttest results of the experimental group taught directly using the TGT (Team Games Tournament) learning model, as shown in the following table.

Table 5. Hypothesis Test Results (Independent Sample Test)

| Variable | Variance Condition | Levene's Test (F) | Sig. | t | df | Sig. (2-tailed) | Mean Difference |
|-------------------|-----------------------------|-------------------|-------|--------|--------|-----------------|-----------------|
| Learning outcomes | Equal variances assumed | 3.421 | 0.075 | -6.023 | 28 | < 0,001 | -11.4 |
| | Equal variances not assumed | | | -6.023 | 24.542 | < 0,001 | -11.4 |

The results of the assumption test in Table 5, analysis using Levene's Test for Equality of Variances, yielded a significance value of 0.075. Because this value is greater than the 0.05 significance level, it can be concluded that the data variance between groups is homogeneous. Therefore, subsequent statistical test interpretation assumes equal variances. This provision ensures that the data meets the parameter requirements necessary for an accurate mean comparison test.

Furthermore, the results of the significance test using the T-test for Equality of Means showed a Sig. (2-tailed) value of less than 0.001, indicating a highly statistically significant difference between the two groups tested. This difference is emphasized by the Mean Difference value of -11.400, confirming a significant difference in the means. These findings provide strong empirical evidence that the applied treatment or conditions had a significant impact on the observed learning outcomes.

Discussion

The results of this study indicate a significant difference in the learning outcomes of eleventh-grade students at High School 5 Pangkep who were taught using the Team Games Tournament (TGT) learning model compared to those taught using the conventional learning model. Based on statistical tests using IBM SPSS Statistics Version 27, a significance value of less than 0.05 was obtained ($p < 0.05$), with the average soccer learning outcome using the TGT model reaching 86.67, compared to only 75.27 using the conventional model. This finding confirms that the choice of teaching style by educators plays a crucial role in determining the extent to which students are able to effectively master basic soccer techniques.

Theoretically, the advantages of the TGT model align with the principles of cooperative learning, which emphasize active involvement and collective responsibility (Fenezia & Armianti, 2025; Nofriansyah et al., 2025). This model encourages social interaction and communication among students through a competitive yet collaborative tournament component, thus stimulating students' intrinsic motivation to achieve the best results. This aligns with the constructivist view, which states that knowledge and motor skills are more easily formed when

students are directly involved in the process of discovery and group collaboration (Mishra, 2023; Vijayakumar Bharathi & Pande, 2025).

The effectiveness of TGT in improving cognitive understanding and psychomotor skills is supported by various previous studies showing that team-based game-based learning can reduce boredom in physical education (Luo et al., 2020; Mo et al., 2024). By positioning teachers as facilitators who provide targeted reinforcement and guidance, students have more space to engage in peer feedback. This implementation has been shown to positively contribute to accelerating mastery of basic techniques in complex sports such as soccer.

In conclusion, the findings at High School 5 Pangkep confirm that the TGT model is a far superior instructional strategy to conventional approaches in the context of physical education. The use of structured game and competition elements not only improves academic achievement quantitatively but also strengthens social character and individual responsibility. Therefore, the adoption of innovative TGT-based learning models is highly recommended for education practitioners to improve the quality and effectiveness of practical learning in the field.

Additionally, the results of the hypothesis test using the Independent Samples Test showed a significant difference between the experimental and control classes, with the experimental class' average score reaching 86.67, significantly exceeding the control class' score of 75.27. Based on the decision-making criteria, the significance value of 0.001, which is below the 0.05 threshold ($p < 0.05$), empirically rejects the null hypothesis (H_0) and accepts the alternative hypothesis (H_a). These findings confirm that the implementation of the Team Games Tournament (TGT) learning model is significantly more effective in improving students' soccer learning outcomes compared to conventional learning approaches.

Theoretically, the advantages of the TGT model align with the cooperative learning concept proposed by Slavin, where elements of team competition and group rewards can consolidate students' motivation and active involvement in mastering motor skills (Lestari et al., 2024; Saripudin et al., 2025). These results also reinforce the findings of previous studies that suggest that the inclusive game structure in TGT is effective in reducing students' psychological barriers in the field of practice learning (Astrina et al., 2026; Sulfiani et al., 2024). Thus, this improvement in learning outcomes is not merely a reflection of individual technical abilities but rather the result of the synergy of collaboration and social responsibility, the main pillars of the effectiveness of team-based game-based instructional strategies.

This research's contribution lies in providing empirical evidence regarding the effectiveness of the Team Games Tournament (TGT) learning model in improving soccer learning outcomes at the high school level, particularly in Pangkep Regency. Practically, these findings provide guidance for physical education educators to shift from conventional, one-way approaches to more dynamic and inclusive cooperative learning strategies. Furthermore, this research enriches the sports pedagogy literature by demonstrating that the integration of structured competition and teamwork elements not only significantly improves students' psychomotor competencies but is

also effective in building responsible character and learning motivation in a high school setting.

4. CONCLUSION

This study concluded that the implementation of the Team Games Tournament (TGT) learning model was significantly more effective in improving students' soccer learning outcomes compared to conventional approaches. This was demonstrated by the substantial increase in the experimental group's average score, from 67.20 in the pretest to 86.67 in the posttest, surpassing the control group's final score of 75.27. The t-test results supported this finding with a significance value of 0.001 ($p < 0.05$), confirming that the TGT intervention had a positive and tangible impact on soccer mastery compared to traditional learning methods.

As a recommendation, Physical Education teachers are encouraged to integrate the Team Games Tournament (TGT) cooperative learning model as an innovative strategy in team sports to improve technical skills while addressing student boredom through a competitive learning atmosphere. Schools are expected to provide policy support and adequate sports facilities to support modified game instruments. For policymakers, these results can serve as a basis for developing Physical Education (PJOK) learning modules based on strengthening student competency standards. Furthermore, for future researchers, it is recommended to expand the scope of the study to different sports branches and explore psychological variables and the influence of geographical conditions in island regions to enrich the scientific knowledge regarding the effectiveness of active learning models in the field.

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