

The Effect of Times Game Tournament on Ball Playing Skills of Sports Students of Medan State University

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ABSTRACT

Background: Learning in soccer courses for sports students at Medan State University is needed, one of which is the times games tournament (TGT) method. However, the TGT method in the scope of college students has not received special attention. **Purpose:** The purpose of this study was to test the TGT method to optimize ball playing skills (dribbling, receiving, shooting) in sports students at Medan State University. **Methods:** The research method was experimental with one group pretest-posttest control group; participants were 20 students who were divided into two groups of TGT and control by applying matched ordinal pairing. The instrument is the skill of playing the ball. Data collection techniques include observational and field tests. Data analysis techniques with nonparametric tests, Wilcoxon and Man-Whitney, assisted with SPSS version 25. **Results:** found pretest-posttest sig value of TGT and control groups ($0.000 < 0.05$). TGT and control group posttest comparison was found ($0.000 < 0.05$). **Conclusion:** times games tournament method is better than the control group in soccer playing skills. **Implications and Recommendations:** There is a need for improvement in future research with an individualized approach and a longer period of time to be more optimal.

Keywords: Times games tournament (TGT); soccer; sports students

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INTRODUCTION

Various problems are often experienced in the lecture process such as limited facilities, fluctuating learning motivation and teaching strategies that are not fully adaptive to student needs. Therefore, it is no wonder that a lecturer must find a solution so that the approach used is more interactive, fun and effective. In this case, the trending learning method is the times game tournament (TGT), this learning method emphasizes the cooperative process to encourage collaboration, participation and build healthy competition between students (Riswana & Khaerunnisa, 2024). In the context of sports education, more specifically in ball games, this approach provides a new color to challenge and develop affective, cognitive and psychomotor attitudes simultaneously (Moon & Lee, 2025; Sahabuddin et al., 2025).

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attitudes simultaneously (Anggraini & Napitupulu, 2024; Fauziah et al., 2020). This interactive element provides competition as well as cooperation between students, two things that are urgent in this study are in the sport of soccer which focuses on social skills.

The focus of this research is on sports students at Medan State University. As a lecturer as well as a researcher in the field of physical education photographed that there is potential to improve the quality of learning soccer games through the TGT approach. Today the problem is very classical such as low student involvement and lack of active learning in practice so that the lack of development of the ability to play soccer. Through a group system and competitive games, students are expected to be active in learning. In addition, develop critical thinking, and understand the role in the team then improve socialization skills in the field.

Observations in the field that sports students at Medan State University are still partly oriented towards individual abilities, lack of togetherness and effective communication. This has a negative impact on the cooperative learning process which is the core character of team or team sports. In this case, the author believes that the consistent application of TGT provides a different atmosphere in practical lectures, especially playing soccer.

The TGT method brings changes to the role of the lecturer who is not only an instructor but becomes a facilitator who actively manages group dynamics, opens opportunities for reflective discussion and provides a gym to explore learning. The interaction experience provided in the TGT method is not only theoretical but provides real tactics and strategies for students (Najmi et al., 2021)

In addition, the TGT method has the potential to holistically develop cooperation and discipline (Adha et al., 2023; Kamaruddin & Yusoff, 2019a). Some studies mention that the TGT method strengthens motivation, stimulates active involvement (Karini et al., 2020; Riyanti et al., 2024; Safitri & Fathurrahman, 2024). In addition, in the context of a mini group soccer game, it provides a lot of hands-on experience in active engagement.

Some of the descriptions above the author presents the gap in perspective through observations, but to strengthen the gap the author provides scientific evidence, such as several studies conducted research using the TGT method but still focused on primary and secondary school learning (Hendra & Rahayu, 2020; Najmi et al., 2021). In addition, several other studies have focused more on volleyball and basketball games, while there are still not many soccer games in learning using the TGT method. In this context, the author sees a research gap that is studied by observational and literature review, so a solution is needed. As a solution, this research aims to test the effectiveness of the TGT model in improving soccer playing skills in sports students at Medan State University.

The hope is that this research will make a real contribution to efforts to develop applicable teaching methods. If TGT provides effective facts, it is certainly not impossible to be the first solution in teaching soccer practice on other campuses, which provides meaningful experiences and is ready to deliver students to the level of superior professional readiness in the future.

METHOD

Participants and data collection

This study involved 20 students from the sports study program at Medan State University, aged between 18-20 years old, who were active in football. The participants were purposively selected based on the following criteria: physical fitness, basic experience in playing soccer. Data collection was conducted through pretest and post-test

using pre-validated soccer skill test instruments (Sørensen et al., 2024). The tests used include dribbling, passing, receiving, and shooting (Girsang & Supriadi, 2021; Siregar et al., 2023; Syobri & Hulfian, 2023). All procedures were conducted in accordance with research ethics guidelines and approved by the university ethics committee. Participants gave written informed consent before taking part in the study (Harriss et al., 2019; Navalta et al., 2020).

Study Organization

Quasi-experimental method with one pretest-posttest control group. The intervention program was conducted for 4 weeks with a frequency of 3 times a week. Each training session lasted 90 minutes and applied the Time Games Tournament (TGT) model developed from a cooperative learning approach. Each session consisted of a warm-up phase (10 minutes), TGT games (70 minutes) and a cool-down phase (10 minutes). The TGT model was chosen as it has been proven effective in improving participants' playing skills and motivation (Rahmalia & Ala, 2023). The skill test instrument refers to the Fédération Internationale de Football Association (FIFA) standard and is converted into quantitative form to objectively measure the variables of dribbling, passing, receiving, and shooting (Marhaendro et al., 2023a). The entire training process was conducted by certified trainers and accompanied by research assistants.

The measurement of soccer playing ability includes four main skills, namely dribbling, passing, receiving, and shooting. Each skill is measured using performance tests that produce quantitative data in the form of numerical scores. The dribbling test is conducted by measuring the participant's travel time in dribbling the ball through a certain zigzag trajectory (Arifin et al., 2020). Passing is scored based on the number of passes on target within the allotted time (Rawat & Gangwar, 2019). Receiving is measured by the number of ball control that is successfully held or controlled from a number of attempts. Meanwhile, shooting is measured by the number of shots on target that enter the target area from the number of shots made (Rawat & Gangwar, 2019).

The test instrument was developed based on the FIFA measurement standard and has been used and validated in various previous studies, such as by Marhaendro et al. (2023) for the validity and reliability of the Futsal Technical Skill Test (Marhaendro et al., 2023b), In the context of shooting after passing, related to the effect of practice on basic football techniques. Measurements were taken twice, namely during the pretest before the intervention began, and post-test after the training program was completed. The assessment is conducted directly in the field by certified trainers and trained research assistants (Syahputra & Hasibuan, 2020).

Statistical Analysis

The data analysis technique is descriptive presenting mean, maximum, minimum and standard deviation values. The hypothesis test using Wilcoxon is to compare the pretest and post-test groups in the same group (Sulistiyono et al., 2021). Then followed by the Mann Whitney test for a non-parametric statistical test that compares two different groups. The significance level used $p < 0.05$. Data analysis was assisted using the Statistical package for the social sciences (SPSS) version 25.

RESULTS AND DISCUSSION

Descriptive Analysis Results

Explains the results of descriptive analysis of the mean, minimum, maximum, standard deviation values in the pretest and post-test groups.

Table 1. Data descriptive results Treatment group pretest - post-test

Descriptive Data	N	Min	Max	Mean	Std. Dev
Pre-test					
Dribbling	20	5,94	16,04	10,98	2,661
Passing	20	11	25	18,15	4,694
Receiving	20	11	24	18,55	4,161
Shooting	20	28,34	99,91	70,41	26,119
Post-test					
Dribbling	20	6,06	16,33	11,28	2,696
Passing	20	14	29	20,30	4,835
Receiving	20	14	27	21,35	4,344
Shooting	20	28,83	100,00	70,69	26,111

Based on table 1, it shows the average values obtained from the pretest and post-test treatment groups. The average pretest score is dribbling 10.98, passing 18.15, receiving 18.55, and shooting 70.41. The average post-test score is 11.28 dribbling, 20.30 passing, 21.35 receiving, and 70.69 shooting. Based on the results of the pretest and posttest scores, it can be described that there is an increase and a decrease in meaningful results.

Table 2. Control Group pretest-post-test data descriptive results

Descriptive Data	N	Min	Max	Mean	Std. Dev
Pre-test					
Dribbling	20	6,08	16,90	13,02	3,272
Passing	20	12	25	19,20	4,396
Receiving	20	11	25	18,00	4,679
Shooting	20	27,01	98,78	59,31	24,425
Post-test					
Dribbling	20	6,24	16,98	13,16	3,280
Passing	20	14	29	21,75	4,575
Receiving	20	15	28	20,55	4,136
Shooting	20	27,16	98,97	59,43	24,435

Based on table 1, shows the average value obtained from the pretest and post-test of the control group. The average value of the pretest is dribbling 13.02, passing 19.20, receiving 18.00, shooting 59.31. In the post-test average values are dribbling 13.16, passing 21.75, receiving 20.55, and shooting 59.43. Based on the results of the pretest and posttest scores, it can be described that there is a significant increase and decrease in results.

Wilcoxon Test

Explain the results of the Wilcoxon analysis of pretest and posttest comparisons on dribbling, passing, receiving, and shooting.

Table 3. Wilcoxon test results of treatment group pretest and post-test

Variable	Significance
Pretest Dribbling	0.000

Postest Dribbling	
Pretest Passing	0.000
Postest Passing	
Pretest Receiving	0.000
Postest Receiving	
Pretest Shooting	0.000
Postest Shooting	

Based on table 3, the results of Wilcoxon analysis in the treatment group show that the Asymp.sig (2-tailed) value for the dribbling aspect is $0.000 < 0.05$, passing $0.000 < 0.05$, receiving $0.000 < 0.05$, and shooting $0.000 < 0.05$. If the Asymp.sig (2-tailed) value is $p < 0.05$, this indicates a significant difference; conversely, if $p > 0.05$, no significant difference is found.

Table 4. Wilcoxon test results of pretest and post-test control groups

Variable	Significance
Pretest Dribbling	0.000
Postest Dribbling	
Pretest Passing	0.000
Postest Passing	
Pretest Receiving	0.000
Postest Receiving	
Pretest Shooting	0.000
Postest Shooting	

Based on table 4, the results of Wilcoxon analysis in the treatment group show that the Asymp.sig (2-tailed) value for the dribbling aspect is $0.000 < 0.05$, passing $0.000 < 0.05$, receiving $0.000 < 0.05$, and shooting $0.000 < 0.05$. If the Asymp.sig (2-tailed) value is $p < 0.05$, this indicates a significant difference; conversely, if $p > 0.05$, no significant difference is found.

Mann-Whitney

Table 5. Mann-Whitney comparing treatment and control groups

Variable	Mean Rank	Sum of Ranks	Mann-Whitney	Sig (2-tailed)
Post-Test Dribbling (Treatment Group)	16,40	328,00	118.000	.026
Post-Test Dribbling (Control Group)	24,60	492,00		
Post-Test Passing (Treatment Group)	18,40	368,00	158,000	.265
Post-Test Passing (Control Group)	22,60	452,00		
Post-Test Receiving (Treatment Group)	21,50	430,00	180,000	.602
Post-Test Receiving (Control Group)	19,50	390,00		
Post-Test Shooting (Treatment Group)	23,45	469,00	141,000	.114
Post-Test Shooting (Control Group)	17,55	351,00		

Based on table 5, after the mann-whitney test in the treatment group and control group, it was found that the significance value in dribbling skills was $0.025 < 0.05$, so the results of the dribbling post-test had a significant difference, but it could be seen that there was a difference between the control and treatment groups of 118.000. In the treatment group and control group, a non-significant value was found in passing skills $0.265 > 0.05$,

receiving $0.602 > 0.05$, and shooting $.114 > 0.05$, so the results of the post-test passing, receiving and shooting did not have a significant difference.

Discussion

The purpose of this study was to examine the effectiveness of the Times Games Tournament (TGT) method in developing the ability to play soccer in sports students. Based on data analysis, the TGT method made a significant positive contribution, especially in the aspect of dribbling. However, the significant effect was not evenly reflected in passing, receiving, and shooting skills when compared to the control group.

An interesting phenomenon emerged from the post-test data, where skills such as passing, receiving, and shooting showed no significant difference between the treatment and control groups. This is most likely due to several interrelated factors. Firstly, the intervention duration of only four weeks may be too short to produce a strong statistical impact on technical skills such as shooting and receiving, which demand fine motor coordination and high precision. Second, heterogeneity in students' initial abilities as well as different backgrounds of playing experience may affect the rate of adaptation to the TGT cooperative learning approach.

Nevertheless, the dominance of TGT can be seen in the dribbling aspect. Playing activities in the competitive mini game format typical of TGT encourage intensive motor involvement, especially in the action of dribbling. This activity encourages students to be actively involved in a game context that combines cooperation and competition. This approach is in line with the argument of Mulyaningsih et al. (2025), which states that a cooperative learning environment based on healthy competition can encourage internal motivation and active participation of students (Mulyaningsih et al., 2025).

The TGT method also provides innovation in soccer learning practices, particularly in higher education settings. Its implementation on fourth semester students of Medan State University showed that TGT not only strengthens the technical aspects of playing skills, but also extends its influence on affective aspects such as the ability to communicate and collaborate in teams. This finding is consistent with the opinion of Fenanlampir (2021), which emphasizes that the TGT model encourages the quality of social interaction and improves group dynamics in the context of sports learning (Fenanlampir, 2021).

A number of previous studies also support the effectiveness of the TGT model in the context of collaborative learning. For example, Alawiyah et al. (2023) and Alfiah et al. (2024) stated that TGT is able to improve learning outcomes and motivation of students in physical education activities (Alawiyah et al., 2023; Alfiah et al., 2024). Unfortunately, most of these studies are still limited to primary and secondary education levels and are more dominant in games such as volleyball and basketball (Fallo et al., 2020; Pratama & Nurrochmah, 2022). Therefore, this study makes a unique contribution by exploring TGT in the context of soccer at the collegiate level, which has previously been relatively under-researched.

Conceptually, the success of this method can be linked to the constructivism approach, which emphasizes that learners construct knowledge through direct experience, social interaction, and the process of reflection during learning. In the practice of TGT, students are exposed to real situations that demand teamwork, group problem solving, and evaluation of game strategies. Such activities encourage the simultaneous strengthening of the psychomotor and cognitive domains, which are the foundation of physical education (Iqbal, 2021).

However, it is important to note a number of limitations in this study. Firstly, the number of participants was only 20, which limits the generalizability of the results. Secondly, it is possible that external variables such as fitness, frequency of self-practice and playing experience prior to the study have not been thoroughly controlled. Thirdly, the short duration of the training program could potentially limit the occurrence of significant changes in certain skills.

Considering these limitations, future research is recommended to use longer duration approaches and individualized training strategies. This is especially important in honing complex skills such as shooting that require longer adaptation time. Support for this approach was also provided by Fahlevi et al. (2024), which emphasizes that personalization in training can increase the effectiveness of skill transfer into real game situations (Fahlevi et al., 2024).

Going forward, the TGT model has the potential to become an alternative learning approach in soccer practice in various sports education institutions in Indonesia. With a more systematic implementation design and assistance from competent coaches, this method is believed to be able to improve the quality of the learning process not only in terms of playing techniques, but also in strengthening cooperative values, sportsmanship, and team communication. In addition, the opportunity to replicate this research through a mixed-methods approach will be very valuable in revealing students' perceptions, motivations, and subjective experiences while participating in TGT-based learning.

Assisting the learning process. This change is in line with the idea of Kamaruddin & Yusoff (2019) serta wee & cheng (2021), which states that cooperative models such as TGT can strengthen participants' emotional and social skills, which are particularly important in team sports (Kamaruddin & Yusoff, 2019b; Wee & Cheng, 2021).

Overall, this study provides theoretical and applicative contributions to the development of relevant game-based learning methods in higher education settings. With continued development, TGT has the potential to become an important part of the physical education practice curriculum that promotes adaptive, interactive, and meaningful learning.

CONCLUSION

Based on the results and discussion above, it can be concluded that the times games tournament method is better than the control group in soccer playing skills. It is hoped that this method will become one of the recommendations for improving playing skills in physical education learning from high school to college level. However, there needs to be improvements in future research, because it has been found that in the shooting aspect the results cannot be said to be optimal, therefore when applying this method it is necessary to use an individual approach so that skills are more optimal. In addition, it is necessary to consider a longer time so that the application is more optimal.

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CONFLICT OF INTEREST

All authors declare no conflict of interest.

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