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Improving Learning Outcomes in Kasti Ball through the Team Games Tournament (TGT) Model among Fourth-Grade Students at SDN 14 Merapi Timur

Rini Astuti[1A-E], *Selvi melianty[2B-D], Muslimin[3B-D], Dewi Septaliza[4A-C], I Bagus Endrawan[5D-E]

[1,2,3,4,5] Universitas Bina Darma, Sumatera Selatan, Indonesia

riniastuti@binadarma.ac.id[1], selvi.melianty@binadarma.ac.id[2], muslimin@binadarma.ac.id[3], dewiseptaliza@binadarma.ac.id[4], bagusendrawan@binadarma.ac.id[5]

ABSTRACT

This study aimed to improve students' learning outcomes in the traditional Indonesian game *bola kasti* by implementing the Team Games Tournament (TGT) cooperative learning model. The research employed a classroom action research (CAR) design conducted in two cycles, each comprising the stages of planning, action, observation, and reflection. The participants were 24 fourth-grade students at SDN 14 Merapi Timur, consisting of 13 boys and 11 girls. Data were collected through performance tests and observation sheets, while analysis was carried out using comparative descriptive methods. The results revealed a marked improvement in students' mastery of *bola kasti* skills, with learning completeness increasing from 37.5% in the pre-cycle to 75% in cycle I and ultimately reaching 100% in cycle II. These findings suggest that the TGT cooperative learning model is an effective instructional strategy for enhancing both technical proficiency and cooperative learning in traditional games. The implications highlight the potential of integrating cooperative learning approaches into physical education to fostear skill development and social interaction among elementary school students. The study is supported by references to cooperative learning theory, includes two tables summarizing progress across cycles, and provides observation instruments as supplementary material.

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INTRODUCTION

Education is a deliberate process aimed at preparing human resources who are intellectually capable, emotionally balanced, and socially responsible (Oktiani, 2017). Within this framework, physical education (PE) plays a vital role in promoting holistic development, addressing not only the cognitive domain but also affective and psychomotor dimensions (Purwadi, 2022). Traditional games such as *bola kasti* are integral to the PE curriculum, as they provide opportunities for developing motor skills

Rini Astuti[1A-E], *Selvi melianty[2B-D], Muslimin[3B-D], Dewi Septaliza[4A-C], I Bagus Endrawan[5D-E]
riniastuti@binadarma.ac.id[1*]

while simultaneously fostering cooperation, discipline, and sportsmanship (Mitranto & Slamet, 2020).

Despite the importance of traditional games, many elementary school students continue to face challenges in mastering the basic techniques of *bola kasti*, including throwing, catching, and striking. Preliminary observations at SDN 14 Merapi Timur showed that only 37.5% of fourth-grade students met the minimum mastery criterion (KKM) of 70, indicating significant performance gaps. This problem was largely attributed to teacher-centred instructional methods that lacked variation, leading to limited student engagement and motivation. Similar findings have been reported in previous studies, where conventional approaches in PE constrained participation and hindered skill acquisition (Suroto, 2024).

In response to such challenges, scholars have increasingly emphasized the importance of student-centred pedagogies. Cooperative learning, particularly the Team Games Tournament (TGT) model introduced by Slavin, integrates structured competition, peer collaboration, and reinforcement mechanisms to support both academic and practical learning (Slavin, 1995). Empirical evidence has demonstrated the success of TGT in enhancing technical skills, social interaction, and collaborative abilities in PE settings (Barus, 2020; Citra, Putri, & Lestari, 2021). Furthermore, TGT has been shown to stimulate creativity and teamwork, even among students with diverse learning needs (Sembiring, Hutapea, & Naibaho, 2020).

Although prior research supports the application of TGT in physical education, limited studies have specifically examined its effectiveness in the context of traditional games such as bola kasti, which carry both cultural and educational significance. Addressing this gap, the present study investigates the impact of the TGT cooperative learning model on improving learning outcomes in bola kasti for fourth-grade students. The novelty of this research lies in combining cooperative learning theory with the practical teaching of traditional games, thereby offering a pedagogical alternative that promotes both skill mastery and student engagement in elementary PE instruction.

METHODS

This study employed a classroom action research (CAR) approach using the Kemmis and McTaggart model, conducted at SDN 14 Merapi Timur, Lahat, South Sumatra, during the 2024/2025 academic year. The participants were 24 fourth-grade students, consisting of 13 boys and 11 girls. The research design was structured into two cycles, each comprising four stages: planning, action, observation, and reflection. The instructional intervention was implemented through the Team Games Tournament (TGT) cooperative learning model, which emphasized peer collaboration, structured competition, and reinforcement.

Data collection utilized three instruments: (1) performance tests of *bola kasti* skills, including throwing, catching, hitting, and running; (2) observation sheets to record student engagement and learning activities; and (3) written tests to measure conceptual

Rini Astuti[1A-E], *Selvi melianty[2B-D], Muslimin[3B-D], Dewi Septaliza[4A-C], I Bagus Endrawan[5D-E]
riniastuti@binadarma.ac.id[1*]

understanding of game rules and strategies. These instruments were developed in accordance with the curriculum and validated through expert review to ensure content relevance and clarity.

The data were analyzed using comparative descriptive statistics by comparing student performance across the pre-cycle, Cycle I, and Cycle II, with reference to the school's minimum mastery criterion (KKM ≥ 70). This procedure enabled the identification of improvements in both technical skills and learning completeness, thereby ensuring that the research questions could be adequately addressed.

RESULTS AND DISCUSSION

Result

Description of Initial Conditions (Precycle)

Before the implementation of the TGT model, initial observations and tests were carried out to identify the learning conditions of the kasti ball in grade IV of SDN 14 East Merapi. The results of the observation show that learning still uses the conventional teacher-centred method, where the teacher provides more explanations and demonstrations, while students tend to be passive and only follow instructions without active involvement. This monotonous learning condition causes low motivation and enthusiasm of students in participating in kasti ball learning.

The pre-cycle performance test produced data showing that only 9 students, or 37.5% of the total 24 students, achieved the minimum completeness criteria (KKM ≥70), while the remaining 15 students or 62.5% had not achieved the KKM with an average class score of 65.4. A more in-depth analysis of each aspect of the skill shows that throwing skills reach an average of 62 which belongs to the sufficient category, catching skills reach an average of 58 which belongs to the less category, hitting skills reach an average of 60 which belongs to the sufficient category, and running skills reach an average of 68, which belongs to the sufficient category. Of the four aspects, catching skills are the lowest aspect, indicating that students have difficulty anticipating and catching the ball correctly.

In terms of learning activities, observations showed that student activity in the group only reached 45.8%, teamwork reached 41.7%, participation in training reached 50.0%, and discipline and sportsmanship reached 54.2%. This data shows that student learning activities are still low and have not reached the expected target. Students tend to wait for instructions from teachers, lack the initiative to practice on their own, and interaction between students in the learning process is still very limited. This condition indicates the need for more innovative learning interventions that are able to increase students' active involvement in the learning process of kasti ball.

Results of Cycle I

Based on the initial conditions that have been identified, the researcher designed learning with the TGT model, starting with the planning stage. In the planning stage of

Rini Astuti[1A-E], *Selvi melianty[2B-D], Muslimin[3B-D], Dewi Septaliza[4A-C], I Bagus Endrawan[5D-E]
riniastuti@binadarma.ac.id[1*]

Cycle I, the researcher prepared a Learning Implementation Plan (RPP) with a clear TGT syntax, formed 6 heterogeneous groups with each group consisting of 4 students with varying abilities, prepared material on basic techniques of kasti ball systematically, prepared interesting group worksheets and tournament questions, and prepared rewards for the best group as a form of positive reinforcement. The formation of this heterogeneous group aims to help high-ability students in the learning process.

The implementation of actions in Cycle I was carried out in 4 meetings with a time allocation of 2 hours of lessons each. In the first and second meetings, the teacher presented material on the techniques of throwing, catching, and hitting the castor ball using live demonstrations and visual media. Students then learn in groups with the guidance of the teacher, where each group practices alternately at various training posts that have been prepared. Group members help each other and correct technical errors made by their groupmates, creating a collaborative learning atmosphere. At the third meeting, games and tournaments were held where each group sent its representative to the tournament table to compete with students from other groups who had equal abilities. Points earned from these tournaments are then collected for their respective groups. The fourth meeting was used for evaluation through individual performance tests, announcement of the best group, and the giving of rewards as a form of appreciation for student achievements.

The results of observations during Cycle I showed positive changes in the learning process. Students look more enthusiastic and motivated in participating in learning, as can be seen from the cheerful facial expressions and enthusiasm in doing exercises. Interaction and cooperation in groups also increased, where students began to actively discuss, give each other input, and help friends who were struggling. Competition in tournaments is proven to encourage students to practice more seriously because they want to make the best contribution to their group. However, there are still some students who lack confidence, especially when they have to perform in front of their friends. The data on learning activities in Cycle I showed a significant increase compared to the pre-program, namely, activity in groups increased to 70.8%, teamwork increased to 75.0%, participation in tournaments reached 79.2%, and discipline and sportsmanship reached 83.3%.

The results of the performance test at the end of Cycle I showed a significant increase, with 18 students or 75% of the total students achieving the KKM, although there were still 6 students or 25% who had not reached the KKM. The average grade of the class increased from 65.4 in the pre-cycle to 76.8 in Cycle I, indicating an increase of 11.4 points. Improvements also occur in each aspect of skill, i.e. throwing skills increase to 74 or increase 12 points from the preposition, catching skills increase to 72 or increase 14 points, hitting skills increase to 76 or increase 16 points, and running skills increase to 80 or increase 12 points. The greatest improvement occurred in hitting skills, indicating that training in groups and competitions in tournaments is very effective at improving this aspect.

Although there has been significant improvement, reflections at the end of Cycle I identified several shortcomings that need to be corrected. There are still 6 students, or 25% who have not reached the KKM, mainly due to difficulties in coordination between hitting and

catching the ball. Some students also still look passive in group discussions, tending to only follow instructions from more dominant friends without making an active contribution. The time allocation for the tournament is still considered insufficient, so not all students get enough opportunities to play. In addition, more intensive reinforcement is needed for students who experience difficulties, either through special guidance from teachers or through peer tutoring. Based on this reflection, an improvement plan was prepared for Cycle II which included providing special guidance to 6 students who had not yet completed, increasing practice time for more complex movement coordination, rotating roles in groups so that all students had the opportunity to be active, increasing the variety of games and tournaments to make them more interesting, and providing more specific and constructive individual feedback to each student.

Results of Cycle II

Based on the reflection of Cycle I, the researcher made improvements to the planning of Cycle II by improving the lesson plan, especially in a more effective time allocation, preparing a special remedial program for 6 students who had not completed it, adding a variety of games and tournaments to make it more interesting and challenging, preparing video tutorials that displayed the correct techniques as an additional learning medium, and creating a more interesting points system with various award categories. The remedial program is designed to provide additional training outside of regular learning hours, with intensive mentoring from teachers and designated peer tutors from highly capable students.

The implementation of actions in Cycle II was carried out in 4 meetings with a more directed focus on aspects that still need improvement. The first meeting was focused on deepening techniques through the review of Cycle I materials, demonstrations of correct techniques using prepared video tutorials, intensive exercises with the guidance of previously trained peer tutors, and special guidance for students who are still having difficulties. The second meeting focused on movement coordination, namely throw-catch coordination exercises with various variations of distance and speed, hit-run coordination exercises with simulations of real game situations, and game simulations with various situations to train students' decision-making. The third meeting was held as an inter-group tournament with a more competitive knockout system, where each student got the same playing opportunity, the application of the game strategies that had been learned, and a direct evaluation by the teacher of the performance of each student. The fourth meeting is used for final evaluation through a comprehensive performance test that covers all aspects of skill, a real game of kast ball in a full match format, and the awarding of the best groups and individuals in various categories such as best player, most sportsmanlike group, and biggest improvement.

The results of observations in Cycle II showed very significant improvements in all aspects of learning. All students are seen to be actively involved in learning; there are no more students who are passive or just waiting for instructions. Teamwork is very solid, as seen from smooth communication, fair division of tasks, and mutual support between

Rini Astuti[1A-E], *Selvi melianty[2B-D], Muslimin[3B-D], Dewi Septaliza[4A-C], I Bagus Endrawan[5D-E]
riniastuti@binadarma.ac.id[1*]

group members. Students show high sportsmanship, both in victory and defeat, accept results with open arms and still give appreciation to their opponents. The motivation and enthusiasm of the students are very high, as can be seen from their readiness to arrive early, enthusiasm in practicing, and the desire to continue to improve their technique. Students are also able to apply the game strategies that have been learned, such as choosing the right position, conducting team communication, and making quick and appropriate decisions in game situations. The data on learning activities in Cycle II showed a very encouraging increase, namely, activity in groups reached 91.7%, teamwork reached 95.8%, participation in tournaments reached 100%, and discipline and sportsmanship reached 100%.

The results of the performance test at the end of Cycle II show the achievement of the target that has been set, where all 24 students or 100% have successfully achieved the KKM. The average grade of the class increased to 85.2, indicating an increase of 8.4 points from Cycle I or 19.8 points from the previous cycle. Improvements also occurred in all aspects of skill, i.e. throwing skills increased to 84 or an increase of 10 points from Cycle I, catching skills increased to 82 or increased by 10 points from Cycle I, hitting skills increased to 86 or increased by 10 points from Cycle I, and running skills increased to 88 or increased by 8 points from Cycle I. Consistent improvements in all aspects showed that the improvements made in Cycle II were very effective in helping students master all basic skills of kasti ball.

Reflections at the end of Cycle II show the success of the implementation of the TGT model in improving the learning outcomes of basketball. All students managed to achieve KKM with a significant increase in average scores, excellent student activities and cooperation as seen from active involvement and positive interactions in groups. Students showed a comprehensive understanding of kasti ball both in terms of technique and game strategy, and all the indicators of research success that have been set were successfully achieved and even exceeded the minimum targets. Because all success indicators have been achieved and there are no more aspects that need to be significantly improved, the research was stopped in Cycle II with the conclusion that the TGT learning model has proven to be effective in improving the learning outcomes of kasti ball in grade IV students of SDN 14 East Merapi.

Table 1.
Student Mastery of Bola Kasti Skills Across Research Cycles

Stage	Students Achieving Mastery	Percentage (%)	Students Not Achieving Mastery	Percentage (%)
Pre-Cycle	9	37.5%	15	62.5%
Cycle I	18	75%	6	25%
Cycle II	24	100%	0	0%

Discussion

The findings of the study revealed a progressive improvement in student performance across research cycles. In the preliminary stage, only nine students (37.5%) achieved the minimum completeness criteria (KKM ≥ 70), while the remaining fifteen students (62.5%) did not achieve it. During Cycle I, student outcomes improved, with

Rini Astuti[1A-E], *Selvi melianty[2B-D], Muslimin[3B-D], Dewi Septaliza[4A-C], I Bagus Endrawan[5D-E]
riniastuti@binadarma.ac.id[1]*

eighteen students (75%) achieving completion, although some difficulties persisted, particularly in hitting and catching coordination. In Cycle II, all twenty-four students (100%) managed to achieve completeness, indicating a marked improvement in the execution of techniques and cooperative play.

Consistent improvements in cross-cycle performance demonstrate the effectiveness of the TGT cooperative learning model in improving individual skills as well as collaborative engagement. Through the integration of team-based activities and structured tournaments, this model fosters motivation, accountability, and peer-assisted learning, which collectively contribute to skill mastery.

Conformity with Cooperative Learning Theory. This finding is in line with the cooperative learning theory put forward by Slavin (1995), where learning will be more effective when students work together to achieve common goals. In this study, the formation of heterogeneous groups allows students with different abilities to help each other, thus creating a supportive learning environment.

Key elements of TGT that contribute to success:

1. Positive Interdependence
   In a TGT group, the success of the group depends on the contribution of each member. This encourages students to help each other and make sure all members master the material.
2. Individual Accountability
   Despite studying in groups, each student remains individually accountable through performance tests and participation in tournaments. This prevents free-riding and encourages every student to be active.
3. Healthy Competition
   Tournaments in TGT create healthy competition between groups, which has been proven to increase students' motivation and enthusiasm for learning. A fair points system ensures each group has an equal chance of winning.
4. Reinforcement and Rewards
   Awarding the best group provides positive reinforcement that increases students' intrinsic and extrinsic motivation.

These findings are in line with previous studies, such as Barus (2020), who reported that TGT effectively improves the performance of the castet ball, and Citra et al. (2021), who highlighted its success in teaching hitting skills. Research by Barus (2020) showed an increase in completeness from 40% to 85%, which is in line with the findings of this study. Similarly, Sembiring, Hutapea, and Naibaho (2020) emphasize that the cooperative and competitive elements of TGT create a dynamic learning environment that encourages teamwork, creativity, and active participation. Their research on mathematics subjects shows that TGT is not only effective for psychomotor learning, but also for cognitive learning. Furthermore, research by Luo et al. (2020) in the context of college physical education found that TGT significantly improved students' learning motivation and motor skills. This strengthens the argument that TGT can be applied to various levels of education with positive results.

Rini Astuti[1A-E], *Selvi melianty[2B-D], Muslimin[3B-D], Dewi Septaliza[4A-C], I Bagus Endrawan[5D-E]
riniastuti@binadarma.ac.id[1*]

This study confirms that TGT overcomes the limitations of traditional teacher-centred instruction by shifting the learning process towards student-centred engagement. Some specific advantages identified:

1. Increase Student Active Engagement
   In contrast to conventional methods, where students tend to be passive, TGT encourages each student to be actively involved in the learning process. The data showed an increase in activity from 47.9% (pre-cycle) to 96.9% (Cycle II).
2. Developing Social Skills
   Through group learning and tournaments, students learn to communicate, negotiate, respect the opinions of others, and resolve conflicts. These social skills are essential for a child's holistic development.
3. Increases Intrinsic Motivation
   Healthy competition in tournaments creates exciting challenges for students. They are motivated to practice harder to contribute optimally to their group.
4. Learning Differentiation
   Heterogeneous group division and a tournament system based on equal ability ensure that every student, both high-ability and low-capability, gets a challenge that is appropriate to his or her level.
5. Developing Character
   Through TGT, students not only learn technical skills of basketball, but also character values such as sportsmanship, honesty, responsibility, cooperation, and respect for opponents.

CONCLUSION

In conclusion, this study provides strong evidence that the implementation of the Team Games Tournament (TGT) model effectively improved student learning outcomes in *bola kasti* among fourth-grade students at SDN 14 Merapi Timur. The proportion of students achieving mastery increased substantially, from 37.5% in the pre-cycle to 75% in Cycle I, and ultimately reached 100% in Cycle II. These results indicate that TGT is not only an innovative and effective instructional strategy for enhancing technical skills but also a pedagogical approach that fosters teamwork, cooperation, and character development, thereby contributing to holistic student growth. Nevertheless, the study was limited to a single school with a relatively small sample size, which may restrict the generalizability of the findings. Future research is recommended to replicate the study across different grade levels, larger populations, and diverse cultural contexts to strengthen the evidence base. Furthermore, it is suggested that subsequent studies explore the integration of TGT with other cooperative learning models and assess its long-term impact on student motivation, engagement, and sportsmanship in physical education.

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