



Improving Badminton Forehand Serve Learning Outcomes Through Teams Games Tournament

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Abstract

Objectives: This study aimed to improve badminton forehand serve learning outcomes through the Teams Games Tournament (TGT) cooperative learning model among Grade XE 5 students at SMA Negeri 1 Palu.

Materials and Methods: Classroom action research was conducted in two cycles, each comprising two meetings and the stages of planning, action, observation, and reflection. Participants were 30 students. TGT included instruction, five heterogeneous teams, discussion and quizzes, serve practice, interteam tournaments, and team recognition. Learning outcomes were assessed using a performance test and a forehand serve rubric covering body position, swing, shuttlecock contact, and direction. Frequencies and mastery percentages were analyzed descriptively.

Results: Learning mastery increased from 11 students (36.67%) at baseline to 20 (66.67%) in Cycle I and 28 (93.33%) in Cycle II. The number not achieving mastery declined from 19 to 10 and then to 2 students. In Cycle II, 6 students (20.00%) were classified as very good, 10 (33.33%) as good, 12 (40.00%) as sufficient, and 2 (6.67%) as poor.

Conclusions: TGT implementation across two cycles was accompanied by improved forehand serve learning mastery. Heterogeneous teams, peer practice, quizzes, and tournaments expanded opportunities for practice and feedback. TGT may be considered as an alternative instructional approach in physical education, although the findings should be interpreted within the limits of classroom action research without a comparison group.

Keywords: badminton; classroom action research; forehand serve; learning outcomes; Teams Games Tournament

Introduction

Physical education should enable students to understand movement concepts and apply them in meaningful practice. In badminton, the forehand serve initiates play and influences the server's ability to place the shuttlecock in a difficult receiving area. Consistent performance requires coordination of body position, racket swing, contact timing, and direction.

Initial observation in Grade XE 5 at SMA Negeri 1 Palu indicated teacher-centered instruction, limited practice opportunities, and low student engagement. Equipment constraints further restricted practical learning. At baseline, only 11 of 30 students (36.67%) met the school's mastery classification.

Cooperative learning places students in structured small groups while maintaining individual accountability. Reviews indicate that cooperative learning in physical education can support psychomotor, cognitive, social, and affective outcomes when positive interdependence, accountability, interaction, and reflection are deliberately designed (Casey & Goodyear, 2015; Bores-García et al., 2021; Zach et al., 2023).

Teams Games Tournament combines teamwork, instructional games, and structured competition. For forehand serve learning, this structure allows students to discuss performance cues, practice in turns, provide feedback, and contribute points to their team. This study aimed to improve badminton forehand serve learning outcomes through TGT among Grade XE 5 students at SMA Negeri 1 Palu.

Materials and Methods

Study design. Classroom action research was conducted in two cycles. Each cycle consisted of two meetings and followed planning, action, observation, and reflection. Reflection from Cycle I informed revisions for Cycle II.



Participants and setting. Participants were 30 Grade XE 5 students at SMA Negeri 1 Palu. The study was embedded in physical education lessons on the badminton forehand serve.

Intervention. The teacher presented the skill and demonstrated the forehand serve. Students were organized into five heterogeneous teams of six. Teams answered 5–10 questions on service concepts, practiced in turns, observed peers, and provided feedback. During the mini-tournament, each student completed approximately five serves; individual rubric scores contributed to the team score. Cycle II emphasized accuracy, shuttlecock control, renewed demonstration, peer feedback, and teacher correction.

Assessment and data analysis. A performance rubric assessed body position, racket swing, shuttlecock contact, and direction. Scores were classified as very good (81–100), good (61–80), sufficient (41–60), poor (21–40), and very poor (0–20). Mastery status followed the school classification reported in the source data. Frequencies and percentages were calculated at baseline, Cycle I, and Cycle II.

Table 1. Action-research implementation

Stage	Main activities	Evaluation
Baseline	Initial observation and forehand serve test	Initial classification
Cycle I	Heterogeneous teams, quiz, practice, mini-tournament	Reflection and revision
Cycle II	Technique reinforcement, peer feedback, tournament	Final mastery



Results

The distribution shifted progressively toward higher achievement categories. Nineteen students had not achieved mastery at baseline. After Cycle I, 20 students achieved mastery and 10 required further improvement. Following technical reinforcement and tournament refinement in Cycle II, 28 students achieved mastery and only 2 remained below the criterion.

Class-level mastery increased by 30.00 percentage points from baseline to Cycle I and by 26.66 points from Cycle I to Cycle II, producing an overall increase of 56.66 points. Because no inferential test was reported, these changes are presented descriptively.

Table 2. Distribution of forehand serve learning outcomes

Category	Score	Baseline, n (%)	Cycle I, n (%)	Cycle II, n (%)
Very good	81–100	4 (13.33)	4 (13.33)	6 (20.00)
Good	61–80	2 (6.67)	6 (20.00)	10 (33.33)
Sufficient	41–60	5 (16.67)	10 (33.33)	12 (40.00)
Poor	21–40	8 (26.67)	8 (26.67)	2 (6.67)
Very poor	0–20	11 (36.67)	2 (6.67)	0 (0.00)
Total	—	30 (100)	30 (100)	30 (100)

Table 3. Class-level learning mastery

Stage	Achieved mastery, n (%)	Below mastery, n (%)	Change (percentage points)
Baseline	11 (36.67)	19 (63.33)	—
Cycle I	20 (66.67)	10 (33.33)	+30.00
Cycle II	28 (93.33)	2 (6.67)	+26.66

Discussion

The increase in mastery from 36.67% to 93.33% indicates that the action cycles progressed in the intended direction. TGT transformed an individual service task into a team-based learning sequence with explicit goals, rules, and scoring. This structure increased repeated practice and exposed students to explanations and feedback from both the teacher and peers.

The findings are consistent with cooperative-learning literature in physical education. Barrett (2005) and Dyson (2001) reported that cooperative structures can support student performance and learning processes. Reviews by Casey and Goodyear (2015), Bores-García et al. (2021), and Iglesias et al. (2023) further indicate potential benefits across physical, cognitive, social, and affective domains. In the present study, heterogeneous teams and individual contributions to team scores preserved a role for every student.

Cycle II improvement may reflect stronger implementation. The teacher repeated demonstrations, emphasized accuracy and control, maintained team practice, and clarified technical corrections. Casey et al. (2015) emphasized fidelity to the core elements of cooperative learning. Bjørke and Moen (2020) also showed that students need time to learn how to participate in cooperative structures; therefore, greater familiarity with TGT procedures may have contributed to the later improvement.

Competition should remain embedded within cooperation. Team recognition should reward not only high performers but also improvement, responsibility, peer support, and sportsmanship. Such practices help retain the affective benefits associated with cooperative learning (Casey & Fernandez-Rio, 2019; Fernandez-Rio et al., 2017).



Limitations include a single class, no comparison group, incomplete individual scores, no reported mean values or interrater reliability, limited participant characteristics, and no formal implementation measure. Future studies should use a validated rubric, two raters, individual-level data, a defined motivation instrument, and a comparison design when causal effectiveness is the research question.

Conclusions

TGT implementation across two cycles was accompanied by an increase in forehand serve learning mastery from 36.67% at baseline to 66.67% in Cycle I and 93.33% in Cycle II. Heterogeneous teams, discussion, alternating practice, peer feedback, quizzes, and mini-tournaments broadened student participation. TGT may be considered for forehand serve instruction, while the findings should be understood as classroom-improvement evidence rather than causal evidence from a controlled experiment.

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Conflict of Interest

The authors declare no conflict of interest.

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