



The Implementation of Target Games to Improve Ball-Throwing Accuracy Among Grade VI Students at SDN Betet 3 Kediri

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Abstract: This classroom action research aimed to improve throwing accuracy through the implementation of target games among sixth-grade students at SDN Betet 3 Kediri. The research involved 27 students and was conducted through a pre-cycle and two cycles, with each cycle consisting of planning, action, observation, and reflection. The target games were implemented through four stations: Circle Throw, Throw into the Basket, Knock Down the Cone, and Attack the Fortress. Throwing accuracy was measured using the Tok Tok Ball Test from the TKSI Phase C package through ten underhand one-handed throws at a distance of three meters. The results showed a progressive improvement in throwing accuracy. The mean score increased from 3.67 in the pre-cycle to 5.07 in Cycle I and 6.22 in Cycle II. The proportion of students achieving at least the Good category increased from 7.41% (2 students) to 51.85% (14 students) and 92.59% (25 students), respectively. The success criterion of at least 80% was achieved in Cycle II. Within the context of this classroom action research, the implementation of target games was accompanied by an improvement in students' throwing accuracy in elementary physical education.

Keywords: Target Games, Throwing Accuracy, Physical Education, Elementary School, Classroom Action Research

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Introduction

Physical Education, Sports, and Health (PJOK) at the primary school level is a vital component of the educational process, providing students with experiences to develop movement skills through physical activity. PJOK instruction focuses not only on the ability to perform physical activities but also offers students opportunities to understand, practice, and refine movement skills aligned with their developmental stages. In Phase C—which encompasses students in Grades 5 and 6—movement instruction is directed toward increasingly structured experiences, enabling students to execute fundamental movement patterns and adapt their skills to the specific situations and demands of the activities involved. This approach

necessitates learning activities that allow students to engage actively, perform movements repetitively, receive feedback, and understand the relationship between the movements performed and the outcomes achieved (Center for Curriculum and Learning, 2025).

One important aspect of Physical Education (PE) in elementary schools is the development of manipulative movements. Manipulative movements involve interaction between the body and an object—such as throwing, catching, kicking, and striking. These skills require students to control an object through coordinated body movements and to direct it in accordance with the activity's objectives. Game-based activities provide opportunities for students to practice fundamental movement skills in active and varied settings. Ningrum et al. (2024) developed a game-based

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model to teach fundamental movement skills to elementary school students, while Nurochim et al. (2025) developed a game-based model for manipulative fundamental movements specifically for sixth-grade students. These studies underscore the relevance of game-based activities in providing diverse movement learning experiences within elementary school physical education.

One form of manipulative movement that needs to be developed is the skill of throwing a ball. Throwing ability encompasses not only the execution of the throwing motion itself but also the control required to direct the ball toward a designated target. When performing an underhand throw with one hand, students must coordinate their body and arm movements while adjusting the direction and force needed for the ball to reach the target. Consequently, simply performing the throwing motion does not guarantee that the ball will reach the intended target; a student might execute the movement correctly yet still produce a throw with inaccurate direction or improper force. Therefore, this study focuses specifically on the accuracy of directing the ball toward the target, rather than on the technical quality of the throwing motion itself.

In throwing skills, accuracy is a crucial aspect because the success of the movement is determined by the relationship between the throw's outcome and the intended target. Throwing accuracy entails directing the ball toward the target by adjusting the direction and force of the throw. Consequently, instruction on throwing accuracy requires activities that allow students to perform the movement repeatedly and receive feedback on their results. Putro et al. (2024) emphasize the importance of structured measurement when assessing fundamental movement skills in elementary school students. In this study, accuracy is specifically defined as the ability to direct the ball toward the target, whereas technical aspects—such as foot positioning, arm swing, and follow-through—are not used as primary assessment criteria.

One instructional approach aligned with these needs is "target games." Target games position a target as the immediate objective of an activity, requiring students to direct an object toward a specific target while accounting for the direction and force of the throw. This provides a clear context for students to link their movements to the outcomes achieved. Target games also offer repeated opportunities to practice, receive feedback, and make adjustments for subsequent attempts. Hadi et al. (2025) utilized archery targets in a classroom action research study to develop target-throwing skills among elementary school students; this offers a relevant point of comparison regarding the use of target-oriented activities in physical education.

Empirical evidence regarding goal-oriented activities can also be found in physical education instruction at the elementary school level. Maharani et al. (2026) investigated the impact of a "sniper" game on throwing accuracy in elementary school physical education. Taupik et al. (2025) examined a goal-based method in relation to underhand passing accuracy among elementary school students. Although the movement skills and learning contexts differ from those of the present study, these works demonstrate the relevance of goal-oriented activities in directing learners' attention toward movement precision and desired outcomes. This study focuses specifically on ball-throwing accuracy, utilizing a standardized throwing assessment instrument within the context of classroom action research in Grade VI.

The use of games in movement instruction is relevant because game-based activities allow learners to gain movement experience across various situations. Alwandi and Wiguno (2025) developed fundamental movement games for elementary school physical education, while Nurochim et al. (2025) created a game-based model for manipulative fundamental movements for sixth-grade students. Wardana et al. (2025) examined target games in the context of teaching manipulative movements to elementary school students in Kediri. However, these studies did not specifically focus on ball-throwing accuracy measured using the *Tok Tok Ball Test*. This distinction provides the basis for examining target games with a specific focus on throwing accuracy.

Based on prior research, there remains scope to examine the application of target games in a more specific context: improving ball-throwing accuracy among sixth-grade students through Classroom Action Research (CAR) employing consistent measurement procedures. This study does not claim that the target game approach is novel in itself; rather, its contribution lies in the specific combination of the subject group (sixth-grade students at SDN Betet 3 Kediri), the use of target games comprising four activity types, a focus on ball-throwing accuracy, and the utilization of the "Tok Tok Ball Test" (from the TKSI Phase C package) as the measurement instrument. The four activities—Circle Throw, Throw into the Basket, Knock Down the Cone, and Attack the Fortress—were designed as a sequential series of target game actions to provide students with opportunities to aim the ball, modulate force, engage in repetition, and receive feedback. This approach expands upon existing research evidence while maintaining a specific focus on throwing accuracy.

This study was motivated by the actual conditions of Physical Education (PJOK) instruction for sixth-grade students at SDN Betet 3 Kediri. An initial assessment using the *Tok Tok Ball Test* yielded a total

score of 99 across 27 students, resulting in an average score of 3.67. Based on the TKSI Phase C criteria, only two students (7.41%) achieved a minimum rating of "Good," while 25 students (92.59%) failed to reach this level. These preliminary findings indicate that the primary difficulty lies in directing the ball toward the target. This situation underscores the need for an instructional intervention that provides students with repeated opportunities to practice aiming at the target while receiving feedback on the direction and force of their throws.

In addition to initial measurement results, observations made during the intervention revealed several implementation challenges. In Cycle I, some students still required guidance on determining the direction of their throws, while others used excessive force; furthermore, the procedures for taking turns and the designated waiting areas needed clarification. These findings informed the reflection and improvements for Cycle II, which incorporated clearer demonstrations of force control, better organization of turns and waiting areas, more direct feedback, a more structured division of roles, and reinforced safety rules. Consequently, the intervention process was not viewed as a mechanical repetition of the same activity, but rather as an iterative process of instructional improvement grounded in observation and reflection.

Based on the preceding explanation, this study aims to examine changes in the ball-throwing accuracy of sixth-grade students at SDN Betet 3 Kediri through the implementation of target games. The study consistently employed the "Tok Tok Ball" test across the pre-cycle, Cycle I, and Cycle II stages, while observations were conducted to identify implementation challenges and determine instructional adjustments for subsequent cycles. Thus, this research seeks to provide empirical evidence regarding the use of target games as an instructional approach to develop ball-throwing accuracy within the Physical Education (PJOK) curriculum at the elementary school level.

Method

This study employed the Classroom Action Research (CAR) method to improve the throwing accuracy of sixth-grade students through target games. The study involved 27 sixth-grade students from SDN Betet 3 Kediri and comprised a pre-cycle stage followed by two action cycles. The pre-cycle stage was conducted to assess the students' initial throwing accuracy prior to the implementation of target games. The results of the pre-cycle assessment served as a baseline for designing the interventions for Cycle I. Each action cycle consisted of four stages: planning, action implementation, observation, and reflection. The

action implementation stage in each cycle was carried out over two sessions.

During the planning stage, learning activities were structured based on issues identified regarding students' initial throwing accuracy. The planned intervention utilized target games as the primary learning activity. Four target games were implemented: Circle Throw, Throw into the Basket, Knock Down the Cone, and Attack the Fortress. These activities were designed to provide students with opportunities to practice aiming the ball at targets through various throwing exercises. The planning also encompassed the preparation of learning activities, equipment, and assessment procedures, as well as the observation of the learning process.

The action phase involved implementing the planned target games within the physical education lessons. These four games are designed to provide students with repeated opportunities to practice throwing at specific targets. During the sessions, students participate in the activities according to the instructions and activity arrangements prepared by the researcher. This action is carried out over two meetings per cycle, accompanied by observations of student participation and any difficulties that arise during the learning activities.

The observation phase was conducted during the implementation of the intervention. Observations focused on student participation in the activities and the execution of the target game—including difficulties encountered during throwing practice, students' ability to direct the ball toward the target, the management of turns and waiting areas, and the effectiveness of the instructions and feedback provided during the activity. The observation results served as supporting information to evaluate the implementation of the intervention and identify aspects requiring improvement.

The reflection phase was conducted at the end of each cycle by reviewing the assessment and observation results obtained during implementation. This reflection aimed to determine whether the actions taken met the established success criteria and to identify aspects of the learning activities requiring improvement. In Cycle I, several challenges were identified, including students' difficulty in determining the direction of their throws, the use of excessive throwing force, issues with turn-taking and waiting area management, a limited number of balls, and the need for clearer guidelines. These findings served as the basis for refining the implementation of the target game in Cycle II. Improvements included providing clearer demonstrations and instructions, emphasizing control over throwing force, adjusting turn-taking and waiting area arrangements, offering more direct

feedback, and reinforcing safety rules throughout the activity.

Throwing accuracy was measured using the *Tok Tok Ball* test from the Indonesian Student Fitness Test (TKSI) Phase C (BGP Banten, 2023a). This test was administered during the pre-cycle stage and at the end of each action cycle to track changes in students' throwing accuracy. The test consisted of 10 underhand throws using one hand with a tennis ball from a distance of 3 meters toward a target basket measuring 30 cm in diameter and 30 cm in height. Scores ranged from 0 to 10 and were determined based on the number of balls that entered or landed inside the target (BGP Banten, 2023a). The same scoring procedure was applied at each measurement stage to allow for the comparison of student scores across the pre-cycle, Cycle I, and Cycle II stages.

The data were analyzed descriptively to determine changes in students' throwing accuracy throughout the stages of the study. Two indicators were used in the analysis: the class average score and the percentage of students meeting the established performance criteria. The average score was calculated using the formula $X = \Sigma X / N$, where X represents the average score, ΣX is the total score obtained by all students, and N is the number of students. The percentage of students meeting the performance criteria was calculated using the formula $P = f / N \times 100\%$, where P represents the percentage, f is the number of students meeting the criteria, and N is the total number of students.

The success of the intervention was determined based on two criteria. First, there had to be an increase in the class average score from the pre-cycle stage through Cycle I and Cycle II. Second, at least 80% of the students had to achieve a minimum rating of "Good." Based on the *Tes Tok Tok Ball* criteria used in this study, the minimum score for the "Good" category is ≥ 6 for male students and ≥ 5 for female students (BGP Banten, 2023a). With 27 students participating in the study, the 80% criterion meant that at least 22 students had to achieve a minimum rating of "Good." Therefore, the intervention was evaluated not only based on changes in the class average score but also on the proportion of students achieving the predetermined category.

Result and Discussion

The implementation of the target game was conducted through a pre-cycle stage and two action cycles. The research results indicate an improvement in students' throwing accuracy throughout the research stages, based on the class average score and the percentage of students achieving at least the "Good"

category. The results from each stage are presented in Table 1.

Table 1. Students' Throwing Accuracy Across the Research Stages

Stage	Number of Student	Total Score	Mean Score	Student Achieving "Good"
Pre-Cycle	27	99	3.67	2 (7.41%)
Cycle I	27	137	5.07	14 (51.85%)
Cycle II	27	168	6.22	25 (92.59%)

A pre-cycle assessment revealed that the students' initial throwing accuracy was low. The class achieved a total score of 99, with an average score of 3.67. Only 2 out of 27 students (7.41%) reached the minimum "Good" category. This situation indicates that the majority of students had not yet met the performance criteria established for the study. These initial findings served as the basis for implementing target games as an intervention, providing students with the opportunity to practice aiming the ball at a target.

Following the implementation of the target game in Cycle I, the total class score rose from 99 in the pre-cycle stage to 137, while the average score increased from 3.67 to 5.07. The number of students achieving at least the "Good" category also rose from 2 (7.41%) to 14 (51.85%). Although these results indicate an improvement in throwing accuracy, the established success criteria were not met, as the percentage of students reaching the minimum category remained below 80%.

Observations and reflections conducted after Cycle I identified several aspects requiring improvement. Some students still struggled to determine the direction of their throws and tended to use excessive force. Additionally, the organization of turns and waiting areas needed adjustment, the supply of balls was limited, and students required clearer instructions during the activity. These findings served as the basis for modifying the implementation of Cycle II. Thus, Cycle II was not merely a repetition of Cycle I, but an improved execution based on the results of the previous cycle.

In Cycle II, the implementation of the target game was refined by providing clearer demonstrations and instructions, emphasizing control over throwing force, improving the organization of turns and waiting areas, offering immediate feedback, and reinforcing safety rules. Following these improvements, the total class score rose to 168, with an average score of 6.22. The number of students achieving at least a "Good" rating increased to 25 out of 27 (92.59%). Consequently, these results surpassed the previously established

criteria, which required at least 80% – or 22 out of 27 students – to achieve a minimum rating of "Good."

Progress from the pre-cycle stage through Cycle II demonstrates an improvement in students' throwing accuracy during target games. The average score rose from 3.67 in the pre-cycle stage to 5.07 in Cycle I and 6.22 in Cycle II. Concurrently, the proportion of students achieving at least a "Good" rating increased from 7.41% to 51.85%, ultimately reaching 92.59%. Thus, the improvement is evident not only in the class average scores but also in the number of students attaining the expected performance level.

These findings can be understood in the context of the characteristics of goal-oriented activities in physical education. Target games provide students with repeated opportunities to direct a ball toward a specific target while adjusting the direction and force of their throws. These activities also involve varying target configurations, allowing students to practice throwing accuracy across diverse task situations. This instructional approach aligns with the use of game-based activities to develop fundamental movement skills among primary school students. Alwandi and Wiguno (2025) reported on the development of fundamental movement game activities for primary school physical education, while Ningrum et al. (2024) emphasized the development of fundamental movement skills through instructional models for primary school students. These studies provide relevant support for the use of structured game activities in teaching fundamental movement skills.

The findings of this study are also relevant to research specifically addressing target-oriented throwing activities. Hadi et al. (2025) investigated the use of archery targets to improve target-throwing skills among elementary school students through classroom action research. Similarly, Maharani et al. (2026) examined the impact of "sniper" games on throwing accuracy within elementary school physical education. The results of the present study align with the general focus of those studies in demonstrating the use of target-oriented activities as a context for practicing throwing accuracy. However, This study employed four types of target games and conducts the intervention within a classroom action research framework comprising two cycles.

The improvement observed between Cycle I and Cycle II highlights the importance of reflection in classroom action research. The enhanced results in Cycle II did not stem merely from repeating the same learning activities; rather, the interventions were modified based on issues identified during Cycle I – specifically regarding throw direction, control of throwing force, activity organization, feedback, and safety. This process enabled the learning activities to

address the difficulties students encountered in the previous cycle. Thus, the study's findings reflect not only the implementation of target games but also the continuous improvement characteristic of classroom action research.

These findings are also relevant to the learning objectives of physical education at the elementary school level. Activities involving targets require students to coordinate arm and hand movements with the intended target direction. In this study, the assessment focused specifically on throwing accuracy using the *Tok Tok Ball Test*, rather than on manipulative movement skills in general. Therefore, changes in test results reflect changes in the students' throwing accuracy as measured within the context of the intervention.

Although improvements were observed throughout the stages of the research, these findings must be interpreted within the scope of the study itself. The research involved only 27 sixth-grade students at SDN Betet 3 Kediri and was conducted using a classroom action research method. Consequently, the results reflect changes observed within that specific class and intervention context, meaning they cannot be directly generalized to the entire elementary school student population. Furthermore, the study did not employ a comparison or control group; thus, the primary findings illustrate the changes that occurred during the implementation and refinement of the classroom intervention.

Conclusion

The results showed an improvement in the throwing accuracy of Grade VI students at SDN Betet 3 Kediri following the implementation of target games. The intervention consisted of four target-game activities, namely Circle Throw, Throw into the Basket, Knock Down the Cone, and Attack the Fortress, and was implemented through two action cycles. The action in Cycle II was improved based on the results of observation and reflection in Cycle I, particularly regarding throwing direction and force, demonstration clarity, turn management, waiting-area organization, feedback, equipment availability, and safety.

The improvement in throwing accuracy was reflected in the Tok Tok Ball Test results. The mean score increased from 3.67 in the pre-cycle to 5.07 in Cycle I and 6.22 in Cycle II. The number of students who achieved at least the "Good" category also increased from 2 students (7.41%) in the pre-cycle to 14 students (51.85%) in Cycle I and 25 students (92.59%) in Cycle II. Thus, the result in Cycle II exceeded the predetermined research success criterion of 80%, corresponding to at least 22 of the 27 students. The

same measurement procedure was maintained throughout the research, and two students remained in the Moderate category, indicating that the improvement was not identical for all students.

Based on the results and the predetermined success criterion, the classroom action research achieved the expected criterion in Cycle II. Within the context of this study, the implementation of target games was associated with an improvement in students' throwing accuracy. The findings are limited to the 27 Grade VI students at SDN Betet 3 Kediri and the learning actions implemented during the research; therefore, they are not intended to be generalized directly to other learning contexts.

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