

Implementation Of Cooperative Learning Method With Ball Modification Rubber To Improve Students' Shot Put Learning Outcomes, Class V Mi Darul Ulum Sambirobyong District, Sumbergempol Regency, Tulungagung, Academic Year 2025/2026

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Abstract

This research is based on the researcher's observations and experiences that the shot-put learning at MI Darul Ulum Sambirobyong, Sumbergempol District, Tulungagung Regency still uses less varied learning methods, low student participation, and the use of standard shot-put equipment that is less appropriate to the characteristics of elementary school students. This has an impact on low student learning outcomes. This study aims to determine the improvement of shot-put learning outcomes of grade V students of MI Darul Ulum Sambirobyong through the implementation of the Cooperative Learning method with rubber ball modification. The research used the Classroom Action Research (CAR) method with the research subjects of class V MI Darul Ulum Sambirobyong, Sumbergempol District, Tulungagung Regency. This research was conducted in two cycles, using instruments in the form of lesson plans, student learning outcome tests, teacher activity observation sheets, and student activity observation sheets. The results of the research that has been carried out by applying the Cooperative Learning method with the rubber ball modification showed an increase. The average in cycle I was 60.03 with a percentage of 42.42%. After acting, the average obtained was 76.42 with a percentage of 87.88%. This research concludes that the implementation of the application of the Cooperative Learning method Modifying rubber balls effectively improves student learning outcomes. Therefore, teachers, as learning implementers, must prioritize an effective learning process to create an atmosphere of group cooperation.

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1. INTRODUCTION

Physical education is an important and inseparable part of the overall educational process. Law Number 3 of 2005 concerning the National Sports System, Article 1, paragraph 11, emphasizes that educational sports are organized as a regulated and continuous process to acquire knowledge, personality, skills, health, and physical fitness (Law No. 3 of 2005, 2005). The scope of physical education includes games and sports, development activities, gymnastics, rhythmic, aquatic, and outdoor education (Mustafa & Dwiyoogo, 2020). However, in practice, physical education learning in many elementary schools still faces obstacles, one of which is limited facilities and infrastructure that are not appropriate to the physical characteristics of elementary school-aged students.

One of the athletic learning materials that requires strength, technique, and body coordination is the shot put. The use of a standard-sized shot put, which is too heavy for children, makes learning less interesting and tends to be boring, especially for female students who are less familiar with this sport. Modifying learning resources is one solution to overcome this obstacle, because it encourages teachers to create more adaptive, creative, and enjoyable learning for students (Haqqi & Suroto, 2016). Complete and appropriate resources make it easier for teachers to achieve learning targets, while limited resources can make it difficult to achieve the learning objectives themselves (Sultoni & Ferianto, 2015).

This condition was also found in fifth-grade students of MI Darul Ulum Sambirobyong, Sumbergempol District, Tulungagung Regency. Based on pre-cycle learning evaluation data, out of 33 students, only 10 (33%) achieved the Minimum Completion Criteria (KKM), while the other 23 (67%) students had not met this standard. Initial observations also showed low student interest and less than optimal mastery of basic shot-put techniques, which was suspected to be caused by the use of standard equipment that was not suitable for the physical condition of elementary school students.

Several previous studies have examined equipment modification and the cooperative learning model separately, but rarely combined both strategies within a single classroom action research design on shot-put material. Ariyanto and Hariyadi (2020) developed a used-rubber shot-put medium for elementary school students without integrating it with a specific cooperative learning model, while Sultoni and Ferianto (2015) modified the shot-put game without examining a systematic cooperative grouping strategy. Wulandari et al. (2026) confirmed that the cooperative learning model is effective in physical education learning, but did not address equipment adaptation for shot-put material. Therefore, the novelty of this research lies in the simultaneous application of the cooperative learning method and rubber ball modification specifically for shot-put material in grade V elementary school students, an approach that has not been widely investigated in previous studies.

To overcome these problems, innovations in learning methods and media are needed that are appropriate to the characteristics of students. The cooperative learning method was chosen because it emphasizes collaboration between students in groups to create an active and enjoyable learning atmosphere, while the rubber ball modification was chosen as a lighter, safer, and easier medium to use by elementary school students. Based on this description, this research was conducted through Classroom Action Research (CAR). The objective of this research is explicitly formulated as follows: to determine the improvement in shot put learning outcomes through the application of the cooperative learning method with a rubber ball modification in grade V students of MI Darul Ulum Sambirobyong, Sumbergempol District, Tulungagung Regency, Academic Year 2025/2026.

2. METHOD

This study uses a descriptive Classroom Action Research (CAR) approach that focuses on solving learning problems through reflective and sustainable real-world actions. Classroom Action Research is a scientific activity carried out by teachers in their own classrooms by designing, implementing, observing, and reflecting on actions through several cycles in a collaborative and participatory manner to improve the quality of the learning process (Juanda, 2016). This approach is considered capable of bridging theory and learning practice directly, while simultaneously improving the quality of teachers' roles and responsibilities in managing learning (Sanjaya, 2010).

The research was conducted at MI Darul Ulum Sambirobyong, Sambirobyong Village, Sumbergempol District, Tulungagung Regency, with all 33 fifth-grade students as subjects, consisting of 15 male students and 18 female students. The research consisted of two cycles of action, each with one meeting (3 x 35 minutes), which followed the stages of planning, action implementation, observation, and reflection. The researcher acted as a teacher, while the fifth-grade homeroom teacher,

Mr. Agung Tri Yudha Nugraha, S.Pd., acted as a collaborator who accompanied the implementation of learning, conducted observations, and provided input at the reflection stage.

In Cycle I, learning was carried out through a game of pushing a rubber ball in an orthodox style (sideways) over a volleyball net in pairs in groups. The results of the reflection on Cycle I showed that the learning outcomes had not reached the target, so in Cycle II improvements were made in the form of a game of pushing a rubber ball towards a cardboard target hung on a volleyball net, with the composition of the groups adjusted based on the students' abilities in the previous cycle.

The action implementation procedure at each stage was carried out as follows. At the planning stage, the researcher prepared the lesson plan (RPP), the rubber ball media, the observation sheets for teacher and student activities, and the student learning outcome test instrument, and coordinated with the collaborator regarding the division of tasks during learning. At the action stage, the researcher acted as a teacher who delivered the material and guided the game of pushing the rubber ball according to the design of each cycle, while the students carried out the activity in their respective groups. At the observation stage, the collaborator recorded teacher and student activities directly using the observation sheets during the learning process. At the reflection stage, the researcher and the collaborator jointly reviewed the observation results and the learning outcome test scores to identify obstacles in Cycle I, which then became the basis for designing the improvements applied in Cycle II.

Data collection techniques included observing teacher and student activities during learning (Nuryati et al., 2017), learning outcome tests on cognitive, affective, and psychomotor aspects (Nugroho et al., 2021), and documentation in the form of photos and videos of activities (Yunizu, 2016). The final learning outcome score was calculated with a weighting: cognitive aspect 30%, affective 20%, and psychomotor 50%, considering that physical education learning emphasizes psychomotor aspects.

The data were analyzed descriptively using the formula $NP = (n/N) \times 100$, where NP is the value in percentage, n is the value obtained, and N is the total number of data (Muhamad Ali, 1987). Students were declared complete if they obtained a score of ≥ 70 and incomplete if < 70 . The level of success of the action was categorized as very high ($> 80\%$), high (60–79%), moderate (40–59%), low (20–39%), and very low ($< 20\%$). Data from Cycle I and Cycle II were then compared to determine the extent of improvement in student learning outcomes. The change between cycles was determined quantitatively by calculating the difference between the average score and the percentage of classical completion obtained in Cycle I and Cycle II, and by observing the shift in success category, for example from the sufficient to the good category. This numerical change was then interpreted by relating it to the observation results of teacher and student activity, so that an increase in the completion percentage could be explained not merely as a statistical rise but as a reflection of the improvement in the learning process that occurred after the action in each cycle was implemented. The action was declared successful when the classical completion percentage reached the target of 85% set by the researcher; if this target had not been achieved, the cycle was continued with actions adjusted based on the results of the reflection.

3. RESULTS AND DISCUSSION

The research was conducted from May to June 2026. In Cycle I, of the 33 registered students, 32 participated in the learning process, while 1 student was absent. In Cycle II, all 33 students were able to participate in the learning activities until completion. The results of the research for each cycle are presented as follows.

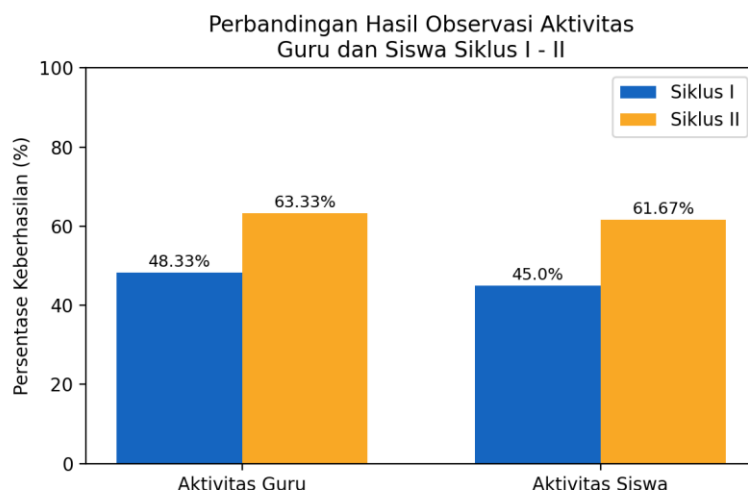
a. Observation Results of Teacher and Student Activities

The results of observations on teacher activities in Cycle I obtained a score of 29 out of a maximum score of 60 (48.33%) with a sufficient category, and increased to a score of 38 (63.33%) with a good category in Cycle II. The results of observations on student activities in

Cycle I obtained a score of 27 out of a maximum score of 60 (45%) with a sufficient category, and increased to a score of 37 (61.67%) with a good category in Cycle II, as presented in Table 3.1

Aspect	Cycle I	Cycle II
Teacher Activity Score	29 (48.33% – Sufficient)	38 (63.33% – Good)
Student Activity Score	27 (45.00% – Sufficient)	37 (61.67% – Good)
Maximum Score	60	60

Table 3.1. Results of Observations of Teacher and Student Activities in Cycles I and II



b. Student Learning Outcomes

The data on students' shot-put learning outcomes in Cycle I showed a class average of 60.03, with 14 students (42.42%) declared to have completed and 19 students (57.58%) not completing. The highest score obtained was 74, and the lowest score was 40. These results did not meet the target of completion set by the researcher of 85% of the total number of students, so the research was continued to Cycle II.

In Cycle II, the average learning outcome increased to 76.42, with 29 students (87.88%) declared to have completed the course and 4 students (12.12%) not having completed the course. The highest score reached 87, and the lowest score was 51. These results indicate that the classical completion target of 85% has been achieved, so the study was stopped in Cycle II.

Information	Cycle I	Cycle II
Number of students present	32	33
Average value	60,03	76,42
Students complete	14 (42,42%)	29 (87,88%)
Students do not complete	19 (57,58%)	4 (12,12%)
The highest score	74	87
Lowest value	40	51

Table 3.2. Shot Put Learning Outcomes, Cycles I and II

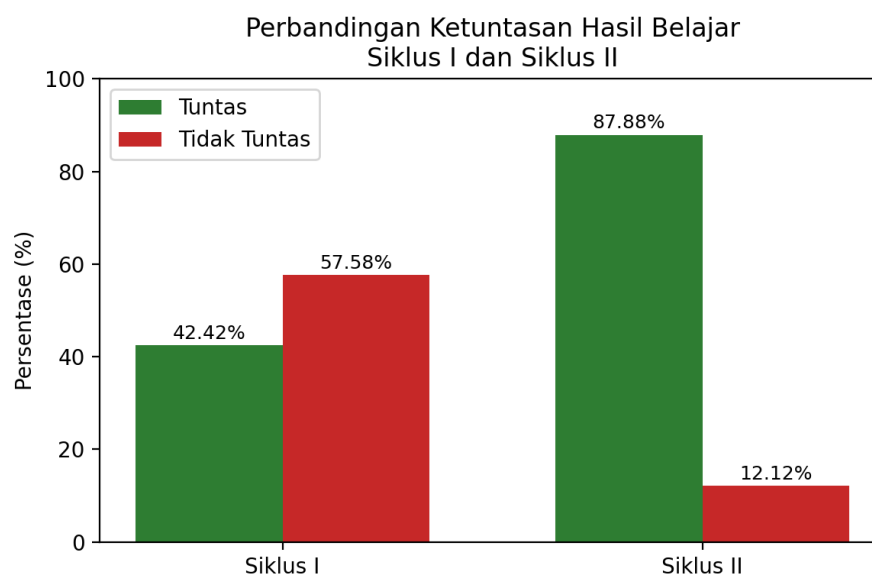


Figure 3.2. Comparison of Learning Outcomes Completion in Cycles I and II

c. Discussion

The results of the study showed that the application of the cooperative learning method with rubber ball modification had a positive impact on improving the learning outcomes of fifth-grade students in shot put. Learning completeness increased from 42.42% in Cycle I to 87.88% in Cycle II, in line with the goal of physical education to develop students comprehensively, both physically, mentally, socially, emotionally, and intellectually (Purnomo et al., 2024).

In Cycle I, the game of pushing the ball towards a group member across the net was not fully effective because some students were not yet accustomed to working together in heterogeneous groups and still showed individualistic attitudes. In Cycle II, a modification of the game in the form of pushing the ball towards a predetermined cardboard target was proven to make students more active and enthusiastic in trying to achieve the target, in line with the finding that the cooperative learning method emphasizes student cooperation in groups to achieve shared learning goals so that the learning atmosphere becomes more enjoyable (Saputro et al., 2025).

This improvement in learning outcomes is also supported by the creation of learning that provides students with opportunities to learn and be active independently in gaining meaningful experiences, knowledge, and skills (Oemar, 2008). Thus, it can be concluded that learning basic shot-put techniques using the cooperative learning method combined with rubber ball modifications can increase the interest, motivation, and learning outcomes of fifth grade students at MI Darul Ulum Sambirobyong.

The 87.88% completion achieved in this study is comparable to the improvement reported by Saputro et al. (2025), who also found that the cooperative learning method combined with modified equipment increased shot-put learning completion at the junior secondary level, suggesting that the effectiveness of this combination is not limited to a single age group. However, this result differs from Sultoni and Ferianto (2015), whose game modification alone produced a smaller increase in shot-put performance, which strengthens the interpretation that the cooperative element of group collaboration, rather than the equipment modification alone, played the more decisive role in the learning gain observed in this study. This is further supported by Wulandari et al. (2026), who emphasize that the cooperative learning model is effective mainly because it increases social interaction and mutual correction among students, a mechanism reflected in this study by the shift from individualistic attitudes in Cycle I to more active

collaboration in Cycle II. Nevertheless, this study only involved one class in one school over two short cycles, so the higher completion percentage should be interpreted cautiously and not generalized as broadly as the multi-site findings of Yuliawan et al. (2025); further research involving a control group or a larger number of schools is needed to confirm whether the improvement is attributable to the intervention rather than to maturation or repeated testing effects.

d. Constraints and Limitations

Obstacles encountered during the implementation of the action included some students in Cycle I still pushing without paying attention to the correct technique, resulting in the ball being misdirected. A gap was also found between students' ability to answer questions theoretically and their ability to practice the basic shot-put technique correctly. Based on the results of brief interviews, these errors were largely caused by students' lack of understanding of the starting position, how to hold the shot put, and the final position of the movement, which became notes for improvement for the implementation of similar learning in the future.

4. CONCLUSION

Based on the results of the research and discussion, it can be concluded that the application of the cooperative learning method with rubber ball modification is effective in improving the learning outcomes of shot-put students of class V MI Darul Ulum Sambirobyong, Sumbergempol District, Tulungagung Regency. The results of observations of teacher activity increased from the sufficient category (48.33%) in Cycle I to the good category (63.33%) in Cycle II, while student activity increased from the sufficient category (45%) to the good category (61.67%).

The average student learning outcomes increased from 60.03 with 42.42% completion in Cycle I to 76.42 with 87.88% completion in Cycle II, thus exceeding the classical completion target of 85% set by the researcher. Thus, the cooperative learning method combined with rubber ball modification can be an alternative solution for physical education teachers in overcoming the limitations of shot put learning facilities in elementary schools, while increasing active participation and student learning motivation.

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