

Effect of SandBall Tool Modification on Sideways-Style Bullet Repellent Learning Outcomes of Junior High School Students

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Abstract

This study was conducted to improve the learning outcomes of sideways-style bullet repellent material with modifications to sandball aids in junior high school students. This research is a class action study. The subjects in this study were 30 junior high school students. This study was conducted starting May 30, 2020. The purpose of this study is to improve the learning outcomes of sideways-style bullet repellent using sandball aids in junior high school students. With this research, it is hoped that it can be used as reference material for teachers regarding the use of sandball aids for learning sideways-style bullet repellent in general and especially in junior high school students. The results of learning on bullet-repellent material with a sideways style have increased by using sandball aids. And from the results of the research analysis in cycle I of students who have not completed there are 18 people and those who have completed 12 people, after the implementation of cycle II, it is known that there is an increase of 41.95%. This shows that the use of sandball aids on bullet-repellent material can improve learning outcomes in junior high school students. Based on the findings and discussions, it was concluded that there was an influence of the modification of the sandball tool on the learning outcomes of sideways-style bullet repellent for junior high school students. Contributions to future research are recommended to be able to develop various learning models, methods, and approaches including the application of modifications because basically these elements in physical education will always be proud in accordance with the demands of the times.

Keywords: Bullet Repellent, Sand Aids, Improvement of Learning Outcomes.

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1. INTRODUCTION

Physical education is part of education in general. Physical education is one of the subsystems of education. Physical education can be defined as an educational process aimed at achieving educational goals through physical movement (Pot et al., 2017; Susanto et al., 2022). It has become a common statement that physical education as a subsystem of education has a meaningful role in developing the quality of Indonesian people (Sulistiantoro & Setyawan, 2021; Widodo & Najibuzzamzam, 2021). Physical education is a process through physical activity, which is designed and structured systematically, to stimulate growth and development, and improve physical abilities and skills, intelligence, and disposition formation (Burhaein, Tarigan, Budiana, Hendrayana, Phytanza, et al., 2021; Burhaein, 2022; Erfayliana et al., 2022). The implementation of physical education in schools in Indonesia in terms of quality is increasingly being improved to improve and improve the quality of physical education in Indonesia.

One way to improve the quality of physical education is to complete the facilities and infrastructure needed in the learning process. Without good infrastructure, learning cannot run smoothly (Bimanggara & Mansur, 2020; Erfayliana et al., 2022; Widiyono, 2022). A means or tool is everything that is necessary in physical activity and is easy to move or carry. Athletics is the oldest sport in the world. The movements contained in this sport are basic movements that are carried out in human daily life, for example: walking, running, jumping, and throwing. Shot put is one of the throwing numbers in athletics which has an important role to support the development and growth of children (McDermott, B. P., Anderson, S. A., Armstrong, L. E., Casa, D. J., Chevront, S. N., Cooper, L., Larry Kenney, W., O'Connor, F. G., & Roberts, 2017). Shot put is one of the sports that enters the sport of throwing numbers of athletics. The bullet repulsion is part of the throwing number which has its own characteristics that the bullet is not thrown over or pushed from the shoulder with one hand. The bullet repellent is a type of skill to reject objects in the form of bullets as far as possible. In the bullet repellent branch, there are 3 kinds of forces, namely the sideways force (orthodox), the turning force (o'brien) and the rotating force (rotation) (Duncan et al., 2018).

In athletic learning, especially the bullet repellent branch, there is not too much need for sophisticated equipment. Enough with the simple tools available in the neighborhood (Agans & Geldhof, 2012; Purwanto et al., 2021). The teacher can carry out the learning process of the bullet repellent branch. In this case, the teacher is required to be creative in how to take advantage of existing tools by making modifications without eliminating the main function of the actual tool but also being able to attract student sympathy to be more interested in the existing learning process. In bullet repellent learning, usually students will tend to feel bored because the means used are standard means without any approach using tool modifications (Mastalerz & Sadowski, 2022; Sobarna, 2018).

Based on the results of a preliminary study at MTs Negeri 2 Kebumen, it is known that the implementation of physical education learning has been running. However, in the sub-subject of athletics, especially bullet repellent material, there are still many students who have not been optimal in learning results, such as students are only able to resist bullets without paying attention to the handle, the eyes and angle of the throw are not correct so that the repulsion results are not optimal. This is influenced by several factors including students not interested in athletic subjects, especially bullet repellent, inadequate facilities and infrastructure and factors of planning, packaging, and presentation of learning that are less interesting and from the teacher himself also

has never applied learning methods with aids but directly with actual tools. These learning problems certainly result in student learning achievement, both related to process values and results. This is proven by the results of learning sideways-style bullet repellent for class VII MTs Negeri 2 Kebumen students who are still below the predetermined minimum completion criteria (KKM), namely 71 with details of 12 people who were declared passed (38.70%) of the 31 students in the side-style bullet repellent learning.

Based on the description above, it is necessary to conduct in-depth research to determine the effectiveness of the application of learning by using tools as an alternative in the problem of bullet repellent learning. The benefits of using tools in learning are that the learning process is more effective and efficient, increasing student learning motivation, variations in learning methods, and increasing student activity in teaching and learning activities. This was done as an effort to succeed in bullet repellent learning in MTs Negeri 2 Kebumen, especially in class VII students. Therefore, there is an urgency in the study that aims to analyze the Effect of SandBall Tool Modification on The Learning Outcomes of Sideways-Style Bullet Repellent for Junior High School Students.

2. METHOD

2.1 Participants

This research is a class action research (Fraenkel et al., 2012; Sugiyono, 2016), this has been implemented in Mts Negeri 2 Kebumen. This Class Action Research was conducted from May 2019 to June 2020. The subjects examined in this Class Action Research are students of class VII Mts Negeri 2 Kebumen for the 2019/2020 academic year, totaling 31 students. Which consists of 14 male students and 17 female students.

2.2 Research Design

The method used in this study is classroom action research. Action research is included in the scope of applied research (applied research) that combines knowledge, research, and action. Action research is carried out when a group of people (students) the problem is identified, then the researcher (teacher) sets an action for overcoming it (Fraenkel et al., 2012; Sugiyono, 2016). In this study, researchers intended to determine the effect of modification of bullet repellent learning aids. The purpose of this study was to determine the effect of sand ball modifications on the learning outcomes of sideways-style bullet repellent for grade VII students.

2.3 Instruments

In this study we used tests and observations to collect data. Test sheets and observations have been corrected by experts from academics and practitioners to see the accuracy of these measurements. The test is carried out to find out how much activity and learning outcomes the students' bullet repellent is before being given an action, namely in the form of bullet repellent learning tools with the use of bullet repellent learning aids. From the results of the observations and tests, it is then presented in a descriptive description.

2.4 Procedures

The procedure for this research is to follow the provisions of the class action research (PTK). There are two minimum stages in the PTK that will be implemented. The first stage consists of 8 meetings, namely cycle one (cycle I), at this stage it begins with

pretest and apperception at meeting 1 then meeting 2-7 is given treatment, namely SandBall Tool Modification on Sideways-Style Bullet Repellent then at the end of meeting 8, namely posttest. The second stage consists of 8 meetings, namely cycle two (cycle II), at this stage it begins with pretest and apperception at meeting 1 then meeting 2-7 is given treatment, namely SandBall Tool Modification on Sideways-Style Bullet Repellent then at the end of meeting 8, namely posttest. After obtaining the data of cycles I and II, it was then seen the improvement and achievement of the standard values. If it has increased, then the cycle is stopped, but if it has not reached the set standard, the next cycle will continue until it stops at the target achievement.

2.5 Data Analysis

Data Collection Techniques in Class Action Research (PTK) consist of two processes, namely tests and observations. The data analysis techniques used in this Class Action Research are descriptive. Technical analysis was carried out because most of the data collected was in the form of a descriptive description of the development of the learning process, namely student participation in sideways-style bulletproof learning.

3. RESULTS

Before the study is carried out, researchers first make observations to find out the actual conditions in the field. In addition, information was also searched for information about the obstacles faced during the bullet repellent learning process at MTS NEGERI 2 KEBUMEN. Preliminary observation activities are carried out to determine the initial conditions of the research as measured by observations and performance tests of bullet repellent skills and to find out how much the student's bullet repellent activities and learning outcomes are before being given action, namely in the form of bullet repellent learning with the use of learning aids. The results of the initial observations are as follows:

1. The students of class VII MTS NEGERI 2 KEBUMEN in the 2019/2020 academic year totaled 31 students, consisting of 17 female students and 14 male students. The learning process carried out in bullet-repellent learning using conventional learning which results in less student learning motivation, less student attention to learning so that it has an impact on low ability and learning outcomes of sideways-style bullet repellent.
2. Based on the results of observations made by researchers and the results of discussions with the Penjasorkes teacher, it is known that the main obstacle in learning bullet repellent is the use of learning tools that have not varied, resulting in students being less excited, not serious, quickly feeling bored during learning and most of the students choose to directly repulse by not paying attention to the style, but when doing this sideways style bullet repellent there are still many from students who seem to have difficulty and are less suitable in applying the sideways-style bullet repellent technique that has been learned before.
3. From the assessment of the results of sideways-style bullet repellent learning carried out by the health assessment teacher, it is also still not optimal, namely only 12 students or about 38.70% of the total number of students 31 students who have complete scores (more than the KKM standard).

Table 1

Description of Preliminary Data on Learning Outcomes of Sideways Style Bullet Repellent in Class VII Mts Negeri 2 Kebumen Students for the 2019/2020 Academic Year

No	Range of Values	Predicate	Number of Children	Percentage	Information
1	$\geq 90,42$	Very Good	0	0%	Complete
2	80,71 – 90,41	Good	3	9,68%	Complete
3	71,00 – 80,70	Medium	9	29,03%	Complete
4	61,22 – 70,99	Less	19	61,29%	Incomplete
5	$\leq 61,21$	Less	0	0%	Incomplete
Total			31	100%	

Source: Primary data

Based on the results of the initial data description before being given learning using tools, students who are complete and who are not complete are far compared. This indicates that students have not been able to achieve the expected competencies for sideways-style bullet-repellent learning. The number of students who entered the complete criteria (able to achieve KKM = 71) was 12 students, and students who entered the incomplete criteria were 19 students with the following percentage of grade criteria: Good at 9.68%, Sufficient at 29.03%, and Less at 60.29%.

Table 2

Description of Learning Outcomes Data for Sideways Style Bullet Repellent in Class VII Mts Negeri 2 Kebumen Students for the 2019/2020 Academic Year

No	Range of Values	Predicate	Number of Children	Percentage	Information
1	$\geq 90,42$	Very Good	0	0%	Complete
2	80,71 – 90,41	Good	2	6,45%	Complete
3	71,00 – 80,70	Medium	17	54,84%	Complete
4	61,22 – 70,99	Less	12	38,71%	Incomplete
5	$\leq 61,21$	Less	0	0%	Incomplete
Total			31	100%	

Source: Primary data

Based on the results of the description of cycle I data above, the learning results of sideways-style bullet repellent for class VII Mts Negeri 2 Kebumen students for the 2019/2020 academic year after the implementation of Cycle I are as follows: A total of 18 students have

reached the Complete criteria (61.29%), while 12 students are Incomplete (38.71%).

Table 3

Description of Learning Outcomes Data for Sideways Style Bullet Repellent in Class VII Mts Negeri 2 Kebumen Students for the 2019/2020 academic year in Cycle II

No	Range of Values	Predicate	Number of Children	Percentage	Information
1	$\geq 90,42$	Very Good	0	0%	Complete
2	80,71 – 90,41	Good	11	35,49%	Complete
3	71,00 – 80,70	Medium	14	45,16%	Complete
4	61,22 – 70,99	Less	6	19,35%	Incomplete
5	$\geq 61,21$	Less	0	0%	Incomplete
Total			31	100%	

Source: Primary data

Based on the results of the description of cycle II data above, the results of sideways-style bullet repellent in class VII mts Negeri 2 Kebumen students for the 2019/2020 academic year after the implementation of cycle II are as follows: A total of 25 students have reached the Complete criteria (80.65%), while 6 students are Incomplete (19.35%).

Table 4

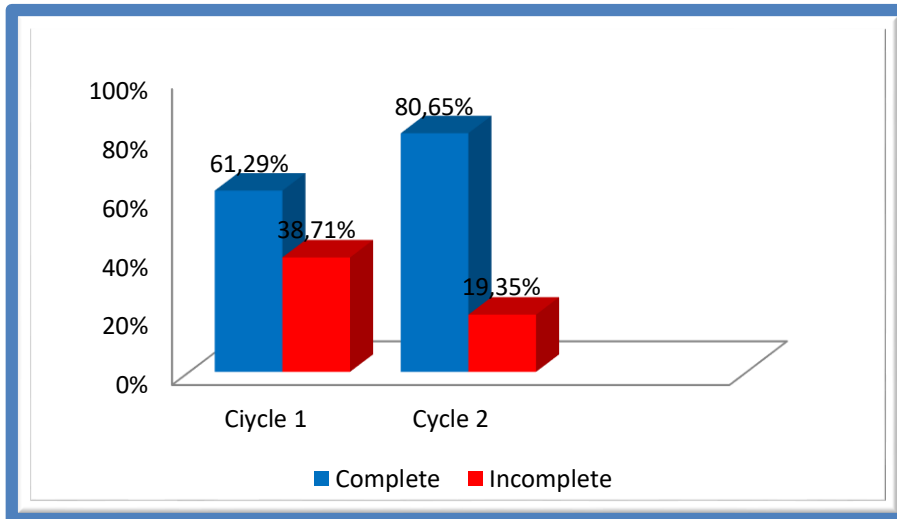
Percentage of Learning Outcomes Of Sideways-Style Bullet Repellent Through the Use of Cycle I and Cycle II Learning Aids.

Information	Percentage	
	Cycle I	Cycle II
Complete	19 Students	25 students
Percentage of Completeness	61,29%	80,65%
Incomplete	12 Students	6 Students
Percentage of Incompleteness	38,71%	19,35%

Source: Primary data

Figure 1.

Bar Diagram of Completeness of Learning Outcomes of Repellent Force Alongside Cycle I and Cycle II



Source: Primary data

Based on the table and diagram above, it shows that the achievement of completeness of sideways-style bullet repellent learning outcomes for class VII Mts Negeri 2 Kebumen students for the 2019/2020 academic year from Cycle I to cycle II has increased from 61.29% to 80.65% or an increase of 19.36%. In other words from the condition of 19 students who graduated in cycle I and in cycle II to 25 students. These results show a gradual increase in improvement starting from pre-cycle to cycle I and from cycle I to cycle II as evidenced by the Table 5.

Table 5.

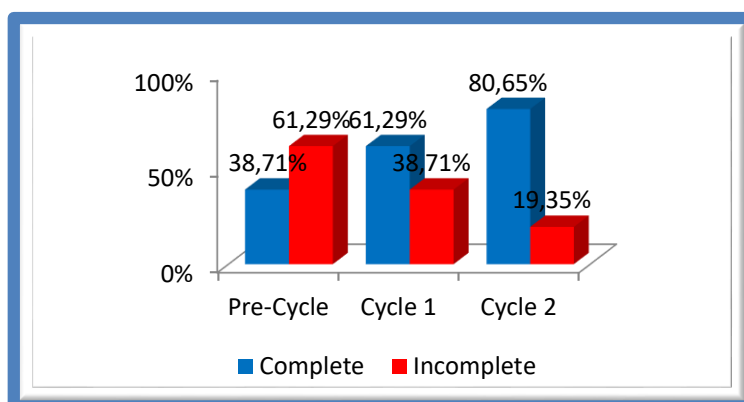
Percentage of Learning Outcomes of Reverse-BackIng Force Bullets Pre Cycle, Cycle I, and Cycle II

No.	Information	Percentage		
		Pre-Cycle	Cycle I	Cycle II
1	Complete	12 students	19 students	25 students
2	Percentage of Completeness	38,71%	61,29%	80,65%
3	Incomplete	19 students	12 students	6 students
4	Percentage of Incompleteness	61,29%	38,71%	19,35%

Source: Primary data

Figure 2

Bar Chart of Completeness of Learning Outcomes Of Reverse Bullet Repellent Force Pre Cycle, Cycle I, and Cycle II



Source: Primary data

Based on the results of research and analysis of the influence test that has been carried out, it can be concluded that there is learning through the use of tools on bullet repellent learning outcomes in class VII MTS NEGERI 2 KEBUMEN students which is significant. The results of complete student bullet repellent learning in the Pre-cycle were 12 students while in Cycle II were 25 students, an increase of 13 students with a percentage increase in the ability of learning basic bullet repellent techniques by 41.94%. The improvement of these abilities is an influence of the learning process using the use of tools. Based on the results of data processing through statistical analysis, after comparing between pre-cycle, cycle I, and cycle II, the results obtained are experiencing a complete increase in students.

4. DISCUSSIONS

In physical education learning, it is necessary to modify physical education learning facilities (Arteaga et al., 2014; Burhaein et al., 2020). However, there are still many physical education teachers in teaching physical education, such as adult sports activities so that their students can excel. This kind of physical education learning must be eliminated because it will adversely affect the child's ability to move. It is not appropriate to expect the child to do the activities that the adult does and nor to expect the child to perform the same conditions as the adult does. The character of the child himself has not been able to accept what adults accept. This opinion shows that modifying physical education learning facilities is very important so that children are actively involved and happy in participating in physical education learning (Festiawan et al., 2021; Phytanza et al., 2021). If the child is actively involved in the learning of physical education, it will improve his basic ability to move. Therefore, making modifications to the means of learning physical education should be carried out for elementary school children.

There are several relevant studies, the first of which was carried out by Sobarna (2018). The population in this study were students of class VIII MTs Jama'atturahmah Bandung City which totaled 20 people, with sampling techniques using total sampling. The instrument used is a questionnaire about students' interest in bullet repellent learning. From the calculation results, it can be concluded that the T table with $dk=18$ i.e. 1,734 is smaller than the Calculated T of 138.26 ($1,734 < 138,26$). So it can be concluded that the modification of the tool has a positive influence

on students' interest in learning bullet repellent in Mts. Jama'aturahmah Bandung City.

In addition there are also studies conducted by Budiono (2014). The results showed that students' interest in Physical Education Lessons at Madrasah Tsanawiyah Negeri 1 Kaleng Puring Kebumen was 12 (8%) students had a very high interest, 37 (24.7%) students had a high interest, 53 (35.3%) students had a moderate interest, 37 (24.7%) students had a low interest, and 11 (7.3%) students had a very low interest in physical education learning. From the results of the study, it can be concluded that students' interest in physical education learning at Madrasah Tsanawiyah Negeri 1 Kaleng Puring Kebumen is in the moderate category.

This study discusses the effect of sand ball modification on sideways-style bulletproof learning outcomes for class VII Mts Negeri 2 Kebumen students. From the results of data processing and analysis that has been carried out by the author, results and findings were obtained that the modification of the tool had a positive influence. Based on the above results and compiled from an expert theory that modification of learning aids affects student learning outcomes. There is a purpose and purpose of learning modification. The objectives of modifying physical education learning are: 1) students obtain satisfaction in participating in learning, 2) increase the probability of success in participating, 3) students can carry out movement patterns correctly. This modification approach is intended so that the material in the curriculum can be delivered and presented according to the cognitive, affective, and psychomotor stages of the child, so that physical education learning in schools can be carried out intensively (Burhaein, Tarigan, Budiana, Hendrayana, & Phytanza, 2021; Metzler, 2017).

5. CONCLUSIONS

Based on the findings and discussions, it was concluded that there was an influence of the modification of the sand ball tool on the learning outcomes of sideways-style bullet repellent for junior high school students. The results of the analysis obtained a gradual increase starting from pre-cycle to cycle I and from cycle I to cycle II. This can be seen from the results of the learning of the sideways-style bullet repellent of pre-cyclical students showing that out of 31 students there were 12 students or 38.71% who were complete and incomplete as many as 19 students or 61.29%. Then the results of the sideways-style bullet repellent learning shown by students in the first cycle showed an increase of 22.58%, 19 students or 61.29% were included in the complete category and the remaining 12 students 38.71% were in the incomplete category. In cycle II, the increase in student learning outcomes was better, namely by 19.36% from cycle I or by 41.95% from Pre-cyclical. A total of 25 students or 80.65% were in the complete category and 6 students or 19.35% of students were in the incomplete category. The implication of this study is to provide a clear picture (description) that the application of modifications to small ball tools filled with sand can increase motivation and learning outcomes, so that the results of this study can be used as a consideration for teachers who want to develop a pleasant bullet repellent learning process. Contributions to future research are recommended to be able to develop various learning models, methods and approaches including the application of modifications, because basically these elements in physical education will always be proud in accordance with the demands of the times.

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