

IMPROVING MATHEMATICS LEARNING OUTCOMES THROUGH THE SNOWBALL THROWING MODEL ASSISTED BY THE MYSTICAL BOX MEDIA (FUN MYSTERY BOX OF FRACTIONS)

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Abstract. The aim of this research is to improve the Mathematics learning outcomes of class V A students at SD Negeri Depok 1 Sleman in the odd semester of academic year 2023 - 2024 through learning with the Snowball Throwing Model Assisted by Mystical Box Media. This research is a classroom action research. The subjects of this research were all 28 students in the VA class of SD Negeri Depok 1 Sleman in the odd semester of academic year 2023-2024, consisting of 10 male and 18 female. The object of this research is student learning outcomes. Based on the data analysis result, it can be concluded that student learning outcomes gradually increased from 58.57 (Pre Cycle) to 72.03 in cycle I and to 81.78 in cycle II. Where the percentage of completeness increased from 36% (Pre Cycle) to 50% in cycle I and to 78% in cycle II.

INTRODUCTION

Mathematics education is an integral part of the basic education curriculum. One of the subjects that plays an important role in developing students' potential at school is Mathematics. Many schools face many obstacles regarding students' abilities. According to Nawafilah & Masruroh (2020) children who experience developmental delays in their ability to count, read and write will influence or become an obstacle to their achievement in school. Mathematics learning cannot be separated from the term of numeracy. In fact, mastery mathematics learning can encourage successful learning which includes the basics, especially numeracy skills (Fkip et al., 2023).

Ability in mathematics is not only an academic skill, but also an essential life skill in facing challenges in the modern era. Therefore, improving mathematics learning outcomes for grade 5 students has a significant role in developing the potential of each individual. Learning outcome is the learning result of a person when the teaching and learning process has occurred (Widana & Umam, 2023). Learning outcomes can also appear in various types of changes or evidence of a person's behavior (Husain, 2021). It is known that learning outcomes are the abilities achieved by students after gaining learning experience. Meanwhile, mathematics learning outcomes are academic achievements obtained by students after

gaining learning experience in Mathematics learning, as can be seen from the test results (Fetra Bonita Sari & Risda Amini, 2020). It should be noted that grade 5 is an important stage in basic education where students have started to learn more complex mathematical concepts such as fractions, scales, comparisons, geometry, and others.

Mathematics is often considered a challenging subject, even scary for most students. In reality, students' numeracy skills are still below standard or relatively low. Students still seem to have difficulty in operating fractional and decimal calculations. It was seen when conducting observations and interviews with grade 5 teachers at SD Negeri Depok 1 Sleman. The result revealed that the average student mathematics learning score was still below the minimum completeness criteria. Even though, the minimum completeness criteria or KKM is 80. He also emphasized that of the 28 students, only 11 students could be said to have completed. Based on this result, it can be concluded that in general, Mathematics learning has not yet achieved the goal of minimum completeness criteria.

Students' mathematics learning outcomes are low in numeracy skills, but the used learning model can also indirectly influence student success in the learning process. During the interview, the teacher said that he often provided theory rather than direct practice. It is because the allocated time is still minimal so the teacher only conveys the theory in the lesson. The teacher often uses a cooperative learning model. Therefore, there is a need for innovative and effective learning models to improve mathematics learning outcomes for grade 5 students. In addition, by implementing varied learning models, students do not feel bored of the learning process which has an effect on improving student learning outcomes (Fasilah, 2021).

Implemented solution to improve student learning outcomes require efforts to improve the learning process with student-centered learning, so it is hoped that students can be more active, one of which is by implementing group learning methods (Zulfa Atikoh & Utami, 2022). In this effort, we introduced an interesting and different model, namely the snowball throwing model. The snowball throwing learning model trains students to be more responsive in receiving messages from other people and implementing those messages (Widiasih et al., 2018).

The Snowball Throwing model has several advantages in learning, including: 1) the class conditions and atmosphere are pleasant, 2) students are given opportunities to develop themselves, 3) students are actively involved in learning, 4) the learning domain is achieved (Aini, 2020). This approach aims to increase students' interest, motivation and understanding of Mathematics by engaging in interactive, collaborative and fun activities. Apart from that, it is assisted by the use of learning media which is able to increase students' curiosity in learning Mathematics, namely the Mystical Box "Fun Mystery Box of Fractions".

Learning media is a teaching aid used by teachers to convey learning material so that students are able to have an interest in the presented learning material (Wulandari et al., 2023). This media is used to help students understand and work on fraction problems. Applying the snowball throwing model using the Mystical Box media, the researchers finally chose this learning model to improve Mathematics learning outcomes in class 5 of SD Negeri Depok 1 Sleman. The school was chosen as a research site because most of the mathematics problems were found there, especially in fraction calculation operations.

Based on this description, it is necessary to study the Snowball Throwing learning model using the Mystical Box media empirically on mathematics learning outcomes, so this research is needed, which is entitled "Improving Mathematics Learning Outcomes Through the Snowball Throwing Model Assisted by the Mystical Box Media "Fun Mystery Box of Fractions" in grade 5 Students of SD Negeri Depok 1 Sleman". This research discusses improving Mathematics learning outcomes through the Snowball Throwing learning model assisted by the Mystical Box Media "Fun Mystery Box of Fractions" for grade 5 students at SD Negeri Depok 1 Sleman. In line with the problem formulation in this research, the aim is to improve Mathematics learning outcomes regarding fractions through the Snowball Throwing learning model assisted by the Mystical Box Media "Fun Mystery Box of Fractions" for grade 5 students of SD Negeri Depok 1 Sleman.

METHOD

This research uses a classroom action research (PTK) design. Classroom action research is carried out to solve learning problems faced by teachers in order to improve the learning quality and outcomes (Widiasih et al., 2018). In this research, the methods were designed including research design, research variables, operational definitions, research subjects and objects, research indicators, research procedures, data collection methods and instruments, data analysis techniques. The implementation of this classroom action research was carried out by researchers as observers during the learning process. The setting for this research was carried out in the 4th week of October 2023 at SD Negeri Depok 1 Sleman. Classroom action research requires several cycles with an effective and efficient teaching and learning process (Anisensia et al., 2020). The chosen subjects in this research were 28 students of class VA consisting of 10 male and 18 female. The object of this research was the steps for learning snowball throwing with the help of Mystical Box Media to improve mathematics learning outcomes in fraction material for class VA students.

The used methods in this research were tests, observation and documentation. Data were analyzed using quantitative descriptive techniques. Quantitative descriptive is a technique for analyzing and presenting data using numbers. This research used supporting tools for the use of methods in the form of instruments. The used instruments were knowledge evaluation tests and observation sheets of teacher learning steps. The research was carried out in two gradual cycles. In each cycle there are two meetings. The stages of each cycle were evaluated and analyzed to determine the effect of the method that has been given as an improvement in the next cycle. The stages of this research were planning, implementation, observation and reflection. The success of action research can be seen by the changes or improvements in learning process. If the percentage of student learning outcomes increases by 75% of the total number of students, then the actions in this research can be stopped. The action cycle that has reached the minimum completeness criteria is the best action that meets the success criteria.

RESULTS AND DISCUSSION

In accordance with the research results regarding the Mathematics learning outcomes of class VA students at SD Negeri Depok 1 Sleman, the following data were obtained:

Table 1. Pre-Cycle Learning Outcomes

No	Learning outcomes	Score
1.	Minimum Score	20
2.	Maximum Score	90

3.	Average	58,57
4.	Percentage	36%

Based on students' Mathematics learning results in Pre-Cycle which is obtained from the tests by teacher, it shows that the average Mathematics learning results are still relatively low at 58.57. It can be seen in the table that the minimum score obtained in the Pre-Cycle is 20, while the maximum score is 90. So, the percentage of student learning outcomes in the Pre-Cycle is 36%. It means that 10 students out of 28 students were declared to have completed the minimum completeness criteria, so there are still 64% or 18 students who still got a score below the minimum completeness criteria. It shows that improvements or changes are needed in the learning process in optimizing Mathematics learning outcomes. Further research was carried out in cycle I. After the implementation of cycle I, data of the increase in student Mathematics learning outcomes was obtained which can be seen in the following table:

Table 2. Cycle I Learning Results

No	Learning outcomes	Score	Description
1.	Minimum Score	45	There were 14 out of 28 students who completed the implementation of cycle I.
2.	Maximum Score	88	
3.	Average	72,03	
4.	Percentage	50%	

Cycle I was held in two meetings. At the end of cycle I, an evaluation was carried out by providing cycle I evaluation questions. Based on the results of the Mathematics learning at the end of cycle I, the data was analyzed to determine changes to the processes that have been carried out. The increase in Mathematics learning outcomes in cycle I shows that the average student Mathematics learning outcomes are moderate at 72.03. It can be seen in the table that the minimum score obtained in Cycle I was 45, while the maximum score obtained was 88. So, the percentage of student learning outcomes obtained in Cycle I was 50%. While the percentage in Cycle I shows 50%, it means that 14 out of 28 students were completed the minimum completeness criteria, so there are still 50% or 14 students who still got a score below the minimum completeness criteria.

It means that improvements or changes are still needed in the learning process in optimizing Mathematics learning outcomes. It is due to several factors or obstacles faced in the implementation of cycle I. The faced obstacles include students not being used to work in groups, so students are less enthusiastic in discussing. In group discussions, the group leader still dominates all group members. Based on the obstacles faced in cycle I, solutions to overcome them, cycle II is needed to perfect them. The research continued by cycle II. After being analyzed, the following data are obtained:

Table 3. Cycle II Learning Results

No	Learning outcomes	Score	Description
1.	Minimum Score	68	There were 22 out of 28 students who completed the implementation of cycle II.
2.	Maximum Score	100	
3.	Average	81,78	
4.	Percentage	78%	

Cycle II was held in two meetings. At the end of cycle II, an evaluation was carried out by providing cycle II evaluation questions. Based on the Mathematics learning results at the end of cycle II, the data was analyzed to determine changes. The increase in Mathematics learning outcomes in cycle II shows that the average student Mathematics learning outcomes are relatively high at 81.78. It can be seen in the table that the minimum score obtained in Cycle I was 68, while the maximum score obtained was 100. So, the percentage of student learning outcomes obtained in Cycle II was 78%. The percentage in Cycle II shows 22%, it means that 22 out of 28 students were declared to have completed the the minimum completeness criteria, so there were still 22% or 6 students who still got a score below the minimum completeness criteria. Completeness of learning outcomes of 78% meets the completeness criteria of student learning outcomes, that is 75%. So it shows that the students' Mathematics learning outcomes have reached the minimum completeness criteria.

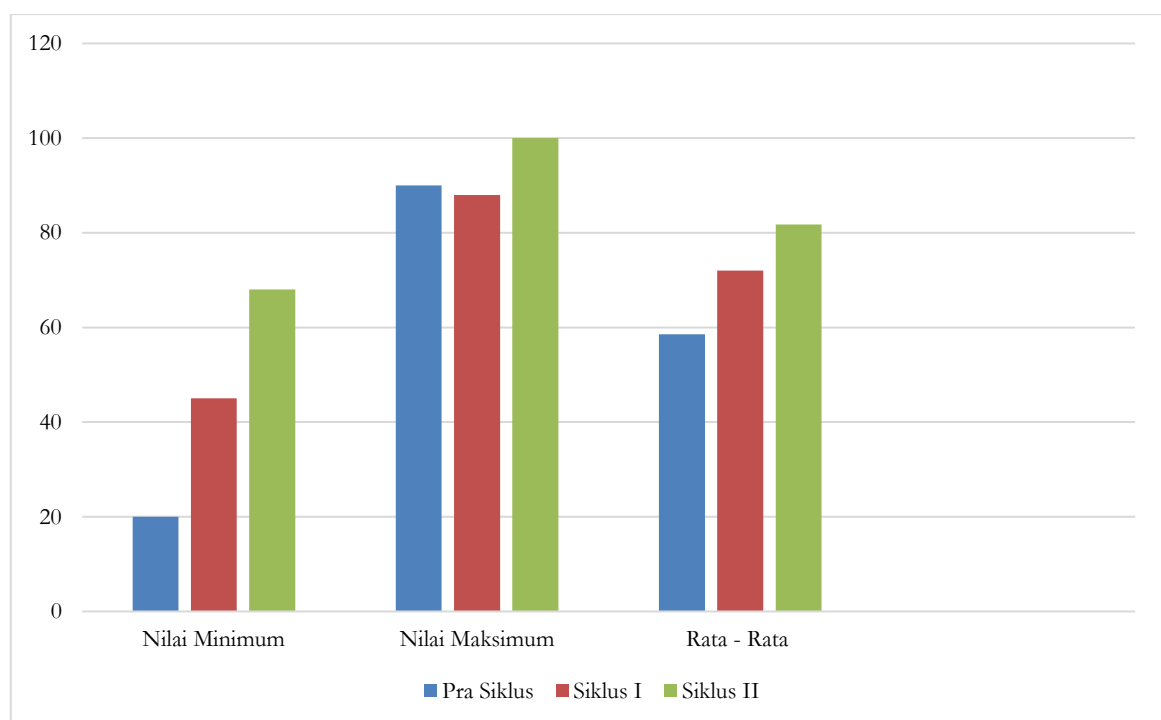


Figure 1. Mathematics Learning Results of Pre-Cycle, Cycle I, Cycle II

The pre-cycle was obtained from the results of observations and interviews with the teacher of class VA. The students' average Mathematics learning outcomes for Pre-Cycle are still relatively low, that is 58.57. There were 36% of students who were declared to have completed the minimum completeness criteria. Therefore, improvements are needed to improve student learning outcomes, that is by the implementation of cycle I. The implementation of cycle I was carried out in two meetings to obtain an average learning outcome of 72.03. There were 50% of students who have completed the minimum completeness criteria. There was an increase in learning outcomes from the Pre-cycle and implementation of cycle I by 14%. Since the results of cycle I are still classified as moderate, further action is needed, by the implementation of cycle II. Cycle II was carried out in two meetings, the average learning outcome was 81.78. There were 78% of students who have reached the minimum completeness criteria or have been declared complete. So, from these data there was an increase in Mathematics learning outcomes between cycle I and cycle II,

that is by 29%. The average learning outcomes for cycle II were relatively high. Classroom Action Research is a gradual activity with a continuous cycle. It can be seen from the increase and improvement in the learning process which continues to flow from the new cycle to the cycle which is considered sufficient and then it stops (Azizah, 2021).

The group learning method is one model of class presentation in learning. Students are faced with problematic material that must be solved in heterogeneous groups. In a discussion group, interaction occurs between two or more individuals to exchange ideas in answering questions or creating questions, all students are involved either actively or passively as listeners (Syaparuddin et al., 2020). The use of group learning model can improve student Mathematics learning outcomes. This model can work well as can be seen from the way of teacher and group leader in conveying the material with their skills. Here the teacher becomes a facilitator and motivator in carrying out learning group discussions (Rahayu & Hidayati, 2018). It can make the learning atmosphere more effective so that it can have an impact on improving students' Mathematics learning outcomes. Through this group discussion, students' attention will be more focused on the material, because students are given direct experience and are actively involved in the learning process (Suandi, 2022).

The learning outcomes referred to in this research are the average test results carried out by students after carrying out actions using the Snowball Throwing type cooperative learning model assisted by the Mystical Box media in Mathematics lesson on fraction counting operations. From each data, the average learning outcomes at the end of each cycle are analyzed to obtain an increase in the learning outcomes that have been carried out. There is an increase in student learning outcomes because students have begun to adapt and begin to understand the new learning method (Damayanthi et al., 2022). To determine students' understanding of the provided material, students are asked to take formative tests individually and then collect them and use them as instruments in measuring student learning outcomes.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the application of the Snowball Throwing learning model assisted by the Mystical Box media "Fun Mystery Box of Fractions" can improve the Mathematics learning outcomes of class VA students at SD Negeri Depok 1 Sleman. It can be seen from the average student learning outcomes in the pre-cycle of 58.57 with 36% completeness, when given the first cycle action, the average learning outcomes increased to 72.03 with 50% completeness, an increase of 14% but still relatively low. Then the result of second cycle of action increased to 81.78 with 78% completeness, an increase of 22%.

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