# Improving Mathematics Learning Outcomes Material of Fractions in the Snowball Throwing Method

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**Abstract.** Learning is a shift in general behavior that results from an individual's interactions with the environment and is the product of effort. The goal of the study was to find out if the Class III Semester 1 Students of SDN Gumilir 03 could learn more effectively by using the Snowball Throwing method in 2022/2023. The PTK approach is employed in this study. analysis of data using tests and observations. Quantitative information via descriptive quantitative comparison, specifically by contrasting the importance of pre-cycle test findings with the importance of cycle I and cycle II test results. While the learning completion value is determined by how well each student performed. The Snowball Throwing learning approach helps enhance the stabilization of learning material for elementary fractions. The fact that 94.44% of student learning outcomes were achieved serves as proof of this. There was a dominant increase in the findings and observations from the pre-cycle, first cycle, and second cycle. The researcher set 80% of Class III pupils receiving a score equal to or higher than the KKM as the success measure. Based on this, the researcher came to the conclusion that using the Snowball Throwing learning technique with basic fraction material improved student learning outcomes.

**Keywords:** snowball throwing, learning outcomes, simple fractions

## 1 Introduction

Learning is a shift in general behavior that result from an individual's interactions with the environment and is the product of effort [1]. Learning is the result of modification or improvement of behavior through experience [2]. The development of modern technology, scientific disciplines and advanced minds is basedon mathematics. Therefore, all students need to learn mathematics with the aim of providing students with the ability to think logically, analytically, synthesize, critically, and creatively [3].

Based on data on the learning outcomes of students who are complete in learning mathematics at SDN Gumilir 03 on material fractions 1/2,1/3, 1/4 only 70% and students who did not complete 30% with an average score of 50, while the KKM value in Mathematics subject at SD Negeri Gumilir 03 State Elementary School is 70. The teacher only conducts learning with the lecture method and learning media using lks only. Therefore students cannot understand the material well and tend to get bored following in math learning.

Students lose interest in participating in class and become diverted from the topic when learning becomes repetitive [4]. Based on the ineffective teaching of mathematics, the researcher claims that it is possible to predict students' inability to understand the concept of fractions through the use of learning mathematics game methods. This will encourage students

to engage in active, challenging, and enjoyable learning because they won't feel awkward or afraid to ask their own friends if they don't understand the subject matter. Additionally, according to the study, using the snowball tossing approach to enhance student learning results can aid in students' learning efficiency.

Research from the past supports the Snowball Throwing learning model's efficacy and influence on improving student learning outcomes [5]. Children are more energetic than adults, and corresponding research suggests that snowball tossing learning can improve student learning outcomes [6]. Additional research has shown that the Snowball Throwing learning strategy can improve the scientific learning of students in grade X [7].

Several of these data suggest that snowball throwing can improve kids' writing skills and academic results. It's only that prior research on the Snowball Throwing learning paradigm's potential to improve third grade elementary school students' mathematics learning outcomes hasn't been focused on this issue. The goal of this project is to enhance third-grade elementary school students' math learning results by implementing the Snowball Throwing paradigm.

Snowball Throwing is learning with the form of an interesting game, namely by throwing balls containing questions on paper [8]. The ability to make questions and is believed to improve student achievement. In learning that uses this Snowball Throwing method, teachers must be more creative, understand the characteristics of students, be able to improve learning that is interesting for students [9].

The steps of snowball throwing learning are [10] are the teacher presents the material to be discussed, several groups are formed, each group leader is given an explanation, group leaders explain the material to their members, questions are written into the worksheet by each student, the worksheet is made like a ball, then the ball is thrown to other students; students answer the questions in turn; evaluation, cover.

The Snowball Throwing learning model has the following advantages, according to students [11]: learning is more fun; students' thinking abilities are improved because they get the chance to formulate problems; the learning process increases student activation; students directly contribute to the creation of media; and students have a deeper understanding of the subject matter being studied. Researchers want to determine if the Snowball Throwing technique can improve in fractional material.

## 2 Research Methods

### 2.1 Research design

The PTK (Classroom Action Research) approach is employed in this study. PTK stands for problem-solving via action under realistic settings and study of the treatment's impacts in the classroom [12]. The cycle's execution is modified in accordance with the action plan created during each cycle. Action research implementation typically involves four stages: planning, implementation, observation, and reflection [13].

In cycle I, it began with planning such as preparing a Learning Implementation Plan (RPP), questions and observation sheets. In the implementation stage, the researcher carried out the learning process that referred to the lesson plan that had been made, divided into 4 groups, called each group leader to come forward, the group leader explained the material to his group members, distributed 1 sheet of work paper to each group, each group made a question on the work paper sheet with a fraction picture and shaped like a ball. The ball was thrown from one group to another, and the other group answered the questions that had been

caught, after that summarizing the lesson material that had been carried out.

During the observation phase, the teacher is gathering numerous details regarding the learning process. The observer's job is to note the action's implementation's advantages and disadvantages. The notes' findings serve as a starting point for creating the subsequent cycle's re-plan. Following the observation phase, the process is maintained by examining and watching the mistakes that researchers make while they work. If the outcomes of reflection reveal any flaws, the researcher might use those flaws as the foundation for creating a new plan.

## 2.2  Research subject

Students in the third grade at SDN Gumilir 03 Kec. Cilacap Tengah Cilacap Regency during the 2022–2023 academic year served as the study's subjects. There are 18 students in the third grade, 11 of whom are male and 7 of whom are female.

## 2.3  Research instrumen

Ways for gathering data that involve testing and observation. The method of gathering math learning activities from third-grade pupils at SDN Gumilir 03 was observational. Student involvement in following the learning process is recorded on the teacher's observation sheet using the model of tossing snowballs. employing testing tools to gather information about math learning outcomes. Student learning outcomes in the area of knowledge are measured by means of learning outcome exams. Multiple choice is used on the test form. Based on the test grid, the exam for this study was created.

By comparing the test scores prior to improvement with the test scores of each cycle, comparative quantitative descriptive analysis was applied in the data analysis technique. Additionally, comparative descriptive analysis was used to compare the ratings from Cycle I and Cycle II before the action. Then, depending on the outcomes of the data description, inferences were drawn. At least 80% of the pupils receiving a grade equal to or higher than the KKM, which is 70, is a sign that the study was successful. Analysis of research data using percentages to represent pre-cycle, cycle I, and cycle II learning outcomes, specifically by determining the rise in student learning completeness that is pronounced complete if they have achieved a score in accordance with the specified KKM of 70.

# 3  Result and Discussion

The data collected shows enhanced student learning outcomes, according to the conclusions of two (two) research cycles. The study's action hypothesis is supported by Cycles I and II, which demonstrate that the Snowball Throwing method is increasingly being employed to enhance student learning outcomes for fractional material. Based on this process, it can be determined that class III students at SDN Gumilir 03 can benefit from the snowball method when learning fractional information. The improvement in student learning outcomes is illustrated by comparing the results of each cycle. Student learning outcomes are evaluated at the end of each cycle to gauge how much they have changed compared to cycle I and cycle II. Information about the outcomes of cycle I and cycle II as well as the initial test. Before drawing any conclusions, the researcher first analyzed the data, figuring out the class average and the percentage of completion.

Exam results showed that youngsters were picking up more math. This is demonstrated by the findings of the mathematics learning outcomes test, which show an increase in average

scores every cycle, and the proportion of students who finish their classical education. With an average score of 70.83 and a completion percentage of 55.56%, 10 students passed the pre-cycle. With a completion average of 74.72 and a percentage of classical completeness of 77.78%, there were 14 more students who successfully completed cycle I. In cycle II, the number of students increased once more to 17, who graduated with an average grade of 82.78 and a 94.44% classical completion rate.

One must finish the analysis phase before drawing inferences from the data that have been gathered in order to receive the results of observations. The Snowball Throwing method is being used in an effort to enhance math student learning outcomes. This is in line with the study's main assumption. The results showed that by using the Snowball Throwing method, students' mathematical learning outcomes were enhanced and successfully extrapolated from test results. Excellent hypothesis testing was carried out during the SDN Gumilir 03 research, and the proposed action hypothesis was adopted. The results of this study are relevant to earlier research that demonstrated the effectiveness of the Snowball Throwing learning approach in raising student activity levels while also enhancing student learning outcomes.

The results of the study show that using the snowball-throwing learning strategy enhances student learning outcomes. Learning media includes everything a teacher uses to present concepts during a lesson. When professors convey knowledge without using learning materials, students are not motivated to study. Additionally, students in primary school still need practical learning tools.

The use of snowball throwing as a math learning tool that can be utilized as a visual aid to help grade III primary school kids overcome their learning challenges, particularly with regard to recognizing fractions, is suggested as a topic for further research.

# 4 Conclusion

The Snowball Throwing model can help students in grade III semester 1 at Gumilir 03 Cilacap State Elementary School learn more about maths. Evidence for this can be found in the results of teacher and student observations, which have improved in cycles I and II. Furthermore, it is clear from the enhanced test findings.

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