SCHOOLAR: Social and Literature Study in Education
Vol. 4 No. 3 February 2025, Page. 1 - 7
E-ISSN: 2797-0299

The Use Of The Gasing Method To Improve Learning Outcomes Of Mathematics

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ABSTRACT

This study aims to improve the learning outcomes of Mathematics on the main material of calculating the circumference of flat shapes using the gasing method (easy, fun, enjoyable) for students of class III Elementary Schools Public 102007 Matapao in the 2024-2025 academic year. In this classroom action research, 22 students of class III Elementary Schools Public 102007 Matapo in the 2024-2025 academic year were the subjects of the recipients of the action, while the class 3 teacher was the subject of the perpetrator, the subject of the data source was the Principal. Data collection was carried out through test techniques, this classroom action research was carried out in two cycles, each cycle consisting of activities: planning, action, testing, and reflection. The results of this study prove that the use of the gasing method (easy, fun, enjoyable) can improve student learning outcomes in Mathematics subjects on the material of calculating the circumference of flat shapes for students of class III Elementary Schools Public 102007 Matapao in the 2024-2025 academic year. Judging from the average value of students' Mathematics learning outcomes that increased, namely before the action (pre-cycle) (71.68) in cycle I (73.04) and in cycle II (80.22). In addition, the percentage of student learning outcomes completion, namely before the action (45.45%), in cycle I (7.72%), and in cycle II was (90.90%).

***Keywords**: Gasing Method; Mathematics; Learning Outcomes; Elementary Schools Public.*

INTRODUCTION

National Education serves to build and enhance intelligence while shaping the character of the nation's children to be virtuous. It aims to increase the intellectual capacity of the Indonesian people and foster the potential of the nation's children to become individuals who are faithful and pious to God Almighty, have noble character, are healthy, knowledgeable, skilled, creative, independent, and democratic citizens who are also responsible (Pendahuluan, 2022).

According to (Arifin, 2017), learning is a process in which an organism changes its behavior as a result of experience. There is an emphasis that learning involves changes in the organism. The changes referred to here are behavioral changes that occur during the learning process. Meanwhile, another opinion by (Yusup, 2018) defines learning as a process of behavior change resulting from interactions that enable individuals to improve their behavior. This change is permanent, so when faced with new situations, there is no need for further adjustment.

Mathematics is one of the subjects taught from elementary and secondary education to higher education (Lutfiana, 2022). Mathematics learning at the elementary level aims to prepare students to have the ability to think logically, analytically, systematically, critically, and creatively as well as the ability to work together (Hindun Syina et al., 2022)(Sulianto, 2008). (Siswanto & Meiliasari, 2024) In the process of learning mathematics states the importance of emphasis on students' abilities in intuitive and analytical thinking will make students smarter in making predictions and skilled in determining patterns and relationships.

The success of the mathematics teaching and learning process can be measured from several things, namely, students' success in participating in learning activities, the ability to understand the material, and the value of student learning outcomes obtained after learning activities are carried out (Kholifah et al., 2021). The higher the ability to understand the material will allow students to understand better when working on practice questions which will later also affect the value that will be obtained. Values that reach the minimum completeness criteria obtained by students after participating in learning activities prove that a student has achieved the learning objectives.

One of the subjects taught in elementary school is mathematics. In grade III semester 2, one of the materials taught is calculating the circumference of flat shapes. Mathematics learning to calculate the circumference of flat shapes listed in the syllabus for grade III semester II theme 7 sub theme 3 learning 1 in its basic competency 3.10 is written to explain and determine the circumference of flat shapes. With the basic competencies that have been determined, grade III semester II students should be able to explain and determine the circumference of flat shapes. In order for these basic competencies to be achieved properly, cooperation is needed from all parties, including teachers, students, and other learning support instruments.

Based on the author's experience as a third grade teacher at Elementary Schools Public 102007 Matapao in the 2024-2025 academic year, as many as 22 students can be categorized as having low test scores on the material for calculating the circumference of flat shapes. This can be seen from the learning outcomes of students, most of whom have not reached the Minimum Completion Criteria (KKM), namely 10 students (45.45%). And those who have reached the Minimum Completion Criteria (KKM) are 12 students (54.54%) from the predetermined KKM, namely 65.

The low learning outcomes obtained by students can be caused by various things. First, it is caused by learning activities being dominated by teachers and still using conventional learning models, so that students feel unhappy being in class so that students are less enthusiastic and interested in receiving lessons. Second, students are less motivated in learning mathematics because they think that mathematics is difficult to learn (Nabillah & Abadi, 2019). According to (Yogi Fernando et al., 2024) motivation is an internal activity which is part of the factors that encourage students to be involved and can direct themselves into learning activities in order to achieve something they want.

In the learning process, teachers also pay less attention to the use of appropriate methods that can achieve maximum learning outcomes (Harahap et al., 2024). Teachers teach only based on books. Currently, the use of media has been used, but not optimally in using various models or methods in teaching (Kuntari, 2023). So that the learning atmosphere tends to be boring at each meeting. The methods used by teachers only use lecture methods, questions and answers, exercises and assignments, so that learning is very verbalistic and monotonous. One of them is in learning mathematics, the material for calculating the circumference of flat shapes. Teachers have not implemented easy calculation methods according to the level of students' thinking to solve problems. This causes students to think that mathematics is a difficult subject. So when learning activities occur, most students have not mastered the material on the circumference of flat shapes well. This problem has an impact on students' mathematics learning outcomes which are less than optimal. Gasing Mathematics is one of the easy, fun and enjoyable methods of learning mathematics which is carried out in stages in order to achieve achievements and results that emphasize mastery of concepts, minimizing the application of difficult formulas (Muliawati I: 2020).

The use of the gasing method in learning activities is expected to be a reference for learning methods in the classroom. Wiyanti's research results (quoted from Wibowi A W, et al: 2020) the gasing method is a learning method that makes students learn easily, fun and enjoyable. While in the material on calculating the circumference of flat shapes, the use of the gasing method is expected to be used as one of the methods that can be used when teaching in class. According to Surya in Syarif (quoted from Ristiana, R, M, S: 2019) the gasing method is one of the mathematics learning methods that is carried out with easy rules and learning activities can be combined with a logical approach and reduce the use of formulas and emphasize learning in the form of real (concrete) exploration activities from materials that are adjusted to the school curriculum. Based on the background above, this study will explain how teachers use the spinning top method to improve mathematics learning outcomes on the material on the circumference of flat shapes for grade III students of Elementary Schools Public 102007 Matapao.

METHOD

This study is a Classroom Action Research (CAR) (Wahyudi et al., 2019). According to (Utomo et al., 2024), Classroom Action Research is a systematic observation conducted by a teacher and the school principal to assess classroom learning activities. Meanwhile, according to (LEBOK, 2023), Classroom Action Research is an effort that educators can undertake to improve the quality of their role and responsibility as teachers, especially in managing the learning process. Generally, CAR is referred to as research aimed at improving quality or solving problems for a group of people, followed by actions that are observed for success. Subsequent actions involve refining or adjusting the methods according to the conditions and situations to achieve better results. This study was conducted at Elementary Schools Public 102007 Matapao. The implementation stages include the pre-cycle, cycle 1, and cycle 2 phases. The subjects of this Classroom Action Research (CAR) are the third-grade students at Elementary Schools Public 102007 Matapao, semester II of the 2024/2025 academic year, consisting of 22 students (10 males and 12 females), who are the recipients of the intervention. The action is carried out by the third-grade teacher, while colleagues observe the teaching and learning activities conducted by the teacher. The data collection methods include assessment of practice exercises completed by the students and observations of the learning process. The assessment method is used to collect data on the student's learning outcomes in mathematics (specifically on the topic of the perimeter of plane figures) before the research. The chosen form of assessment for this study is formative assessment, which is conducted after each cycle (pre-cycle, cycle 1, and cycle 2) to measure the success of the student's learning in the cognitive domain. Additionally, the observation method involves observing student activities during the learning process, specifically focusing on their participation in the implementation of the Gasing method throughout the lessons. The assessment is conducted to measure the student's ability to understand the lessons that have been taught. The obtained scores are used to analyze the students' mastery of the mathematics material after learning with the Gasing method (easy, fun, and enjoyable). The success of this research will be determined if the cognitive domain success indicator is achieved, specifically if 75% of the students reach the established minimum competency criteria.

RESULT AND DISCUSSION

Based on the initial data on the learning outcomes of third-grade students at Elementary Schools Public 102007 Matapao, before the cycles were implemented, there were 10 students (45.45%) who did not meet the Minimum Competency Criteria (KKM), while 12 students (54.54%) met the KKM out of a total of 22 students. The highest score achieved was 100, and the lowest score was 40, with the class average score being 71.68. During the learning process, the teacher only used methods that lacked variation, leading to students' limited understanding of the material explained by the teacher. Additionally, students were not actively engaged in the learning process, and the class was dominated by the teacher. This data can be visualized in the following graph.

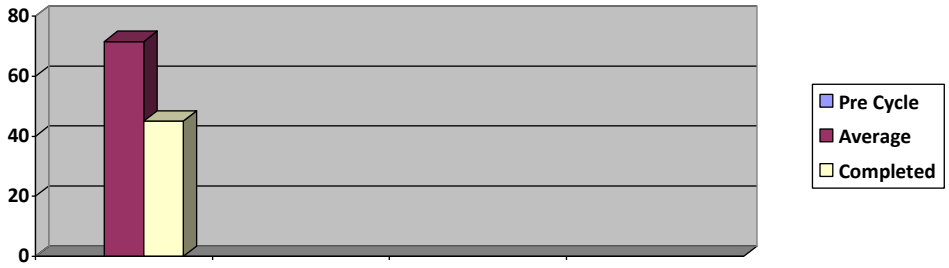

Figure 1. Pre-cycle Student Learning Outcomes Data

The teaching and learning process is carried out by making a learning plan that is carried out with 1x face-to-face meeting, namely (70 minutes). The Basic Competencies taught in cycle I are, 3.10. Understanding and calculating the circumference of flat shapes. After conducting apperception, the next step is to deliver the material using the Gasing method. The Gasing method is carried out with several steps as follows:

Figure 1. Pre-cycle Student Learning Outcomes Data

- The first step of the Gasing method involves dialogue and imagination:
- The teacher explains the material to be taught.

- The teacher encourages students to ask questions about the lesson that will be presented.
- The teacher invites students to use their imagination, asking them to create plane figures (square and rectangle) using matchsticks, which the teacher had previously distributed.
- The students are asked to estimate the number of matchsticks forming the plane figures (square and rectangle).
- The teacher informs the students that the part called the "perimeter" refers to the edges (of the square and rectangle) formed by the matchsticks.
- Next, the students are invited to observe several images of squares and rectangles.
- The teacher asks the students to identify the perimeter parts of the plane figures.

The second step involves providing questions that align with the material:

- Students are asked to solve simple problems to see how well they understand how to calculate the perimeter. They are encouraged to answer questions based on their understanding.

The third step involves delivering more in-depth material:

- The teacher explains how to calculate the perimeter using unit squares. The teacher also explains how to calculate the perimeter with matchsticks, emphasizing that every line along the edge of the figure represents the perimeter.
- The fourth step involves providing varied problems:
- The teacher asks students to solve different exercises from the ones previously worked on, to test their understanding.
- The teacher observes and guides students while they work on the exercises related to calculating the perimeter using unit squares.

After implementing the steps of the learning process, the students' learning outcomes showed improvement. The teacher successfully conducted the teaching and learning process, presenting the material in a structured manner aligned with the learning objectives. However, some students were not fully focused and lacked concentration while the teacher delivered the material using the Gasing method.

The student's learning outcomes in Cycle I improved compared to before the cycles were implemented. The average class score in Cycle I was 73.04. Out of 22 students, 16 students (72.72%) met the Minimum Competency Criteria (KKM), while 6 students (27.27%) did not meet the KKM.

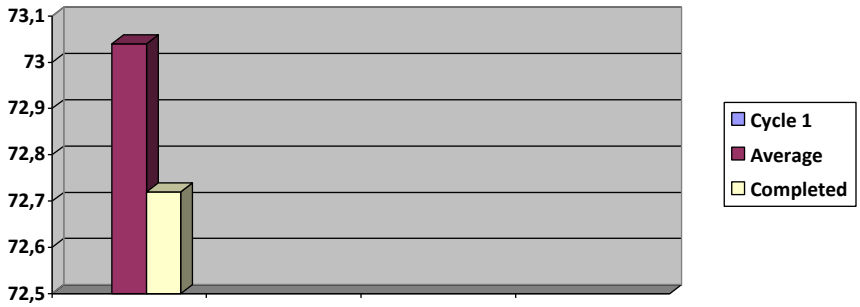

Figure 2. Student Learning Outcomes Data Cycle 1

Based on the assessment results from Cycle I, some students showed active participation in the learning process, while others still lacked the confidence to actively participate. Several factors contributed to the student's lack of engagement during the lesson:

- Some students did not fully understand the material presented by the teacher.
- Students were less skilled at answering the questions.
- The learning outcomes still need further improvement.
- The teacher needs to provide more guidance to students when completing tasks.

After the teacher reflected on the results, it was concluded that adjustments in the learning process are necessary—whether related to the students or the teacher. These improvements will be incorporated into the next cycle (Cycle II), as follows.

The learning activities in Cycle II were carried out using a lesson plan for one face-to-face session (70 minutes). After the opening activity, the teacher explained the material using the Gasing method, supported by visual aids. The steps in the learning process for Cycle II are as follows:

Step 1: Gasing method – dialogue and imagination

- The teacher displays images of square and rectangular plane figures.
- The teacher engages in a dialogue with the students regarding the material to be taught.

Step 2: Provide relevant example problems

- The teacher asks students to work on problems similar to the examples given.
- The students are encouraged to work on the problems based on their individual understanding.

Step 3: Present more in-depth material

- The teacher provides a more detailed explanation, asking students to take notes on how to calculate the perimeter using a formula.
- The teacher shows several examples of perimeter units.
- The teacher explains how to calculate the perimeter using the formula.

Step 4: Provide varied problems

- The teacher gives different practice problems compared to the earlier examples to assess the student's abilities.
- The teacher guides students as they work on solving the questions based on the formula.

Based on the classroom observation conducted by a colleague, the implementation of actions in Cycle II shows a general improvement in the learning outcomes of the students. During the lesson, many students were actively asking questions and were able to complete the practice problems with good answers. Looking at how the students solved the practice problems, it is clear that they understood the material that had been taught.

The assessment results indicate an improvement, with an average score of 80.22. Out of 22 students, 20 (90.90%) have met the Minimum Competency Criteria (KKM), and 2 (9.09%) have not yet met the KKM. The data can be seen in the graph below.

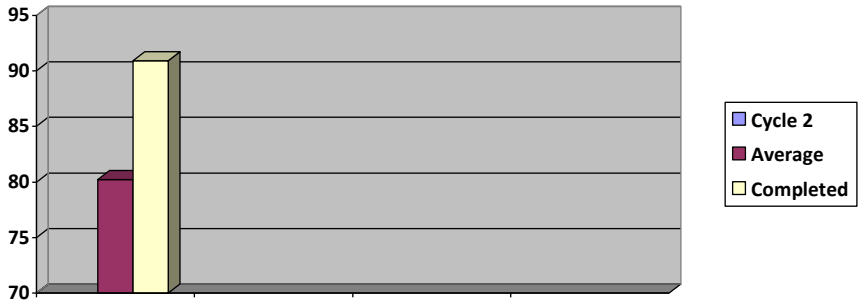

Figure 3. Student Learning Outcomes Data Cycle II

The results of the study in cycle II showed an increase in student learning outcomes. In accordance with the indicators of success in the cognitive domain that have been set, namely 75%, and have met the criteria for classical completeness. With the results that have been obtained, this action is stopped or not continued, just until cycle II. The interpretation of the data obtained based on the analysis and processing of the data above, it can be stated that the use of the Gasing method with the help of image media on the material of calculating the circumference of flat shapes has increased the achievement of student scores. It is shown that in each cycle before the action (pre-cycle), and after the action there is an increase in the achievement of student scores. The increase in the achievement of these scores is the result of increasing student independence in working on questions and understanding the material. Student attention in the learning process and increased social skills. The results of this study can be concluded as shown below.

Each cycle obtained student learning scores that increased periodically. It can be seen that the percentage of student learning outcomes and the average score per cycle increased, namely; (1). Pre-cycle the percentage of completion was 54.54% with a class average of 71.68; (2). In cycle I the percentage of completion was 72.72% with a class average of 73.04, which turned out to still not reach the expected results, namely classical learning success; (3). In the next cycle (cycle 2) the percentage of completion was 90.90% with an average score of 80.22, it was stated that it had met the desired indicators, so this study was declared successful. According to the indicators of success in the cognitive domain that had been set, namely 75%, and had met the criteria for classical completion. Thus, the corrective action was sufficient to stop until cycle II and was not continued.

CONCLUSIONS

By using the Gasing method and image media, it can improve the mathematics learning outcomes of grade III students of Elementary Schools Public 102007 Matapao in the 2024/2025 academic year. It can be seen that the percentage of student learning outcomes and the average score of students in mathematics subjects that have increased are pre-cycle (71.68), cycle I (73.04), and cycle II (80.22). In addition, the percentage of student learning completion, namely before the action (45.45%), in cycle I (72.72%) and in cycle II (90.90%).

Based on the information explained above, the researcher provides the following input; (1). It is better for teachers to always apply the Gasing method in learning mathematics, in addition, teachers need to improve basic teaching skills, media selection is adjusted to the material and characteristics of students, developing innovative learning models, which can optimally help students achieve their level of development; (2). Students when asking questions must be more courageous and confident, provide responses, and answer questions during learning. In addition, when teachers deliver material, students must pay more attention so that learning activities that have goals can be achieved optimally and can run well; and (3). The gasing method is an alternative that can be applied by teachers to improve the quality of learning in schools so that they can continuously maintain the quality of learning.

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