

Increasing Students Activity and Outcomes in Clas III at Elementary School, Bantul, Yogyakarta

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1. Abstract

This research was structured with the aim of increasing the activity and learning outcomes of Class III A students in the material around a flat shape through the Problem Based Learning model at Elementary School, Sewon, Bantul, Yogyakarta Academic Year 2022/2023. The type of research carried out is Classroom Action Research (CAR) . The research design uses the Kemmis and Mc model. Taggart. The research subjects were 21 students from class III A, consisting of 14 girls and 7 boys. The object of research is the activity and learning outcomes of students. Data collection techniques using observation and interviews. Data were analyzed descriptively and presented in the form of tables and graphs. The results showed that there was an increase in the activeness of students' learning in the first cycle of 70.14% in the good category and in the second cycle it reached 83.33% in the very good category. Furthermore, the average student score increased from cycle I of 74.05 to 81.62 in cycle II. It is known that there are 12 students who have completed the KKM (Minimum Mastery Criteria) in cycle I with a percentage of 57.14%. In cycle II, it increased to 80.95% consisting of 17 students who had completed KKM. Thus, there is an increase in the activity and learning outcomes of students in class III flat-topped circuits through the problem-based learning model in elementary schools.

Keywords: *Activeness, Learning Outcomes, Circumference, Problem Based Learning*

2. Introduction

The development of education in Indonesia is increasingly sophisticated with the existence

of information and communication technology. Almost every school has equipment in the form of projectors, LCDs, speakers, computers to support modern learning. Along with the times, education in the current era of globalization promotes independent learning for students in Indonesia so that it is hoped that education can provide progress for this nation. Education can be obtained from the family, school, and even the community. Therefore, education creates a generation that has noble character, has intelligent character, and is moral according to Pancasila.

Skills in 21st century learning are needed in the hope that the achievement of learning competencies can be achieved according to predetermined targets and make students more active in participating in learning both in class and outside the classroom. Skills in 21st century learning known as 4C consist of (1) collaboration ; (2) critical thinking ; (3) communication ; (4) creativity . These four components are the minimum standards related to 21st century learning skills that students are expected to possess optimally (Panuntan, 2018: 161). Skills in the 21st century are expected to be mastered by students starting from collaborating with friends, thinking critically on a problem, communicating well, and being creative. So that the activeness of students in participating in learning can be seen when they have implemented the 4C competencies.

The active learning of students is a learning process of students to improve abilities, develop social interaction with friends and teachers, and become creative students. In addition, according to Sudarsana, KN A, Antara, PA, & Dibia, IK (2020: 150) providing active learning opportunities to students will have a good impact on the progress of education. Thus the need for teachers to create active classes so that students can develop their potential. Active learning is needed to create a more conducive and meaningful classroom. Forms of activity according to Prasetyo, AD, Abduh, M. (2021: 1718) include students doing the assignments given, being able to argue about the information provided by the teacher, being involved in discussing the problem-

solving process, asking friends or teachers if they don't understand the material, being able to present the results of the discussion, and concluding the material that has been studied. This, if done by students both in class and outside the classroom, can provide meaningful learning, and raises high curiosity in students.

Mathematics is a subject related to counting. It is not surprising that some students have difficulty with Mathematics because they encounter numbers that make them think extra. However, there are also students who are very happy with Mathematics because they feel challenged and curious about the answers they calculate. This indicates that each student's ability is different. So teachers need to make learning Mathematics more interesting and fun for students. Learning mathematics in elementary schools should equip students with the ability to think analytically, logically, critically, analytically, and creatively and have the ability to work together (Eismawati, E., Koeswanti, HD, & Radia, EH, 2019:72) . According to Wahono (2019: 57) efforts to improve the quality of learning Mathematics in elementary schools are through learning with visual aids that can improve communication in various directions, namely teacher-student, student to teacher and student to student. This is in the selection of teaching aids or learning media adjusted to the class level. Mathematics learning media can use concrete objects so that students more easily understand the lessons conveyed. However, the use of concrete learning media in mathematics learning by teachers will not bring significant changes to student understanding if it is not accompanied by an appropriate learning approach so that the use of media becomes less than optimal (Hasanah, 2021: 294). Thus it is necessary to have an appropriate approach or model to improve the quality of learning Mathematics and make it easier for students to understand the material being taught.

The Problem Based Learning model is a problem-solving-based model that focuses on students as learners by using their knowledge. According to Fauzia, HA (2018:42) said that the

use of models Problem Based Learning (PBL) with concrete media can be a deep effort improve learning outcomes Mathematics. This is because of the Problem Based Learning model (PBL) raised the problem as the first step to collect and integrate new knowledge.

Based on interviews and observations on April 11, 2023, students in class III A in elementary schools said that students had not been active in participating in thematic learning, especially mathematical content on the material around flat shapes and learning outcomes were still low because students were not thorough in solving math problems and lacked understand or forget how to calculate the circumference of a flat figure. The results of observations made in class III A regarding the Mathematical value of the circumference of a flat shape were that there were students whose scores were less than the KKM (Minimum Completeness Score), namely 75. Of the 21 students in class III A on Mathematics content there were 9 students (42.86 %) scored above the KKM and 12 students (57.14%) scored below the KKM, with a class average of 74.05. Overcoming these problems, in the learning process it is necessary to have a suitable model to increase activeness and increase student results in Mathematics lessons. Researchers use the Problem Based Learning model because this model can be used to work together in solving problems and can increase student activity through presentations and questions and answers with teachers and friends. According to Fitriyani, T., Nugraha, U., & Sofwan (2023: 2451) The Problem Based Learning Model is a learning model that can make students more active in asking questions, actively expressing opinions, improving learning outcomes and also solving problems.

Based on the explanation above, the researcher conducted research on class III A students in elementary schools with the hope of increasing the activity and learning outcomes of Mathematics on a flat circumference. This research was carried out collaboratively with tutors and supervisors with the research title "Increasing the Activeness and Learning Outcomes of Students in Grade III Circumference Through Problem Based Learning Models in Elementary

Schools".

3. Methods

The type of research carried out is Classroom Action Research (CAR). This research was conducted collaboratively at Elementary School, Sewon, Bantul, Yogyakarta. The research design uses the Kemmis and Mc model. Taggart. The research subjects were 21 students from class III A, consisting of 14 girls and 7 boys. This classroom action research was carried out in two cycles. Each cycle contains four stages of activity, namely planning, implementing actions, observing, and reflecting. The object of research is the activity and learning outcomes of students. Data collection techniques using observation and interviews. Data were analyzed descriptively and presented in the form of tables.

4. Results and Discussion

Based on the implementation of the actions for 2 cycles which were carried out in 4 meetings, it was found that the activity and learning outcomes of students had increased. Increased activeness and learning outcomes are known by applying the Problem Based Learning model . The results of observations on the application of the Problem Based Learning model can be seen in the following table.

Table 1. Comparison of Student Activity Observation Results Using the Problem Based Learning Model cycle I and cycle II. Student Activeness Using Problem Based Learning Models

Student Activeness Using <i>Problem Based Learning Models</i>	
Cycle I	Cycle II
70.14%	83.33%
Good	Very good

Based on the table above, the percentage of observations of students' activeness using the Problem Based Learning model in cycle I was 70.14% in the good category and in cycle II it reached 83.33% in the very good category. The results of observing the activeness of students using the Problem Based Learning model increased from cycle I to cycle II by 14.58%. The increase in student activity is known from the evaluation results in cycle I and cycle II as follows:

Table 2. Comparison of Student Evaluation Results cycle I and cycle II.

Information	Mark	
	Cycle I	Cycle II
Amount	1555	1714
Average	74.05	81.62
The highest score	92.5	100
Complete KKM	12	17
Not Completed KKM	9	4
Percentage of KKM	57.14%	80.95%

Based on the research that has been carried out, it is known that the learning outcomes of students in learning Mathematics about the circumference of flat shapes through the Problem Based Learning model have increased. The average value of students increased from cycle I of 74.05 to 81.62 in cycle II. Then based on the data above, it is known that there are 12 students who have completed the KKM (Minimum Completeness Criteria) in cycle I with a percentage of 57.14%. In cycle II, it increased to 80.95% consisting of 17 students who had completed KKM. The achievement of learning outcomes in cycle II has achieved indicators of success because students experience learning completeness individually > 75. The results of observations of teacher activities using the Problem Based Learning model in cycle I and cycle II are presented in the following table.

Table 3. Comparison of Observation Results of Teacher Activities Using Problem Based Learning Model in Cycle I and Cycle II Teacher Activities Using Problem Based Learning Models

Teacher Activities Using <i>Problem Based Learning Models</i>			
Cycle I		Cycle II	
Meeting I	Meeting II	Meeting I	Meeting II
80.56%	86.81%	87.5%	95.5%

The results of observations of teacher activity in the first cycle of the first meeting obtained a percentage of 80.56%. Cycle I meeting II there was an increase in the percentage to 86.81% with very good criteria. Then cycle II meeting I obtained 87.5% and cycle II meeting II experienced an increase reaching 95.5% with a very good category. In cycle I and cycle II there was an increase in the percentage for each meeting because the teacher was successful in giving teaching so as to obtain completeness in all descriptors in teaching students.

The Problem Based Learning model in Mathematics learning about flat shapes can make students more enthusiastic in participating in learning, fun, meaningful, and bring out the activeness of students in solving a problem by way of discussion with their group. According to Yuaniawardani, V., Mawardi (2018: 26) a learning model that is based on mathematical problem solving is needed so that learning is not only teacher-centered and can solve mathematical problems. This is also in accordance with research from Siswanti, R & Harjono, N (2019: 70) that the application of the Problem Based Learning model can improve active abilities and learning outcomes in class V students at SDN Sumogawe 04 with evaluation results in cycle I of 73.9 and cycle II reaching 85.20. Then relevant research as a reference by Rachmawati, NL, Angganing, P., & Riyadi, S. (2022: 7) application of the

Problem Based Learning learning model can improve Mathematics learning outcomes in class III students of SD Negeri Pilangsari 1 Academic Year 2020/2021 . The percentage of learning outcomes as a whole , namely in the pre-cycle was 36%, in the first cycle it reached 50%, and in the second cycle it reached 89%.

Using the Problem-Based Learning model in Mathematics learning about flat shapes can provide more meaningful learning, generate student activity, and build knowledge, attitudes and skills in collaborating with their groups in problem solving. This is in accordance with the opinion of Mulyanto, H., Gunarhadi, & Indriayu, M. (2018:37) The problem based learning model emphasizes the broader process of teaching and learning, creating opportunities to develop meaningful knowledge, skills and attitudes related to collaborative learning, so as to build cooperative knowledge, help students to establish explicit relationships between attitudes toward cooperation and achieve learning outcomes; identify specific collaborative skills required by students, and obtained through group collaboration.

The Problem Based Learning model is able to assist teachers in making learning interesting, different from the others, students can explore information and solve problems with their groups, and improve students' thinking skills so that there is an increase in activeness in the learning process. According to Setyawati, S., Kristin, F., & Anugraheni, I. (2019: 98) the application of the Problem Based Learning learning model can not only measure student learning outcomes, but this model is able to increase student activity by implementing PBL steps, listening and carry out teacher directions, and other learning resources.

5. Conclusion

Based on the results of the research carried out, it can be concluded that the application

of the Problem Based Learning model in Mathematics learning about flat shapes in class III A Elementary Schools can increase the activity and learning outcomes of students with an average percentage of activity in the pre-cycle of 53.89% (less than good) increased to 70.14% (good). The application of the Problem Based Learning model has several deficiencies so that it needs improvement in cycle II. As for the improvements made, namely providing reinforcement to students to actively express opinions and ask questions during learning, encouraging students to pay close attention to whoever is expressing their opinions, motivating students to be active by giving praise or appreciation to students. After the repairs were carried out, there was an increase in cycle II with an average active percentage of 83.33%. In addition, the learning outcomes of students also experienced an increase starting from the KKM percentage of 57.14% increasing to 80.95%.

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