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The Use of Problem-Based Learning Models to Increase Creativity and Student Learning Outcomes in Science Learning Class VI SD Inpres Kolongan Atas

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Abstract: *The progress of a nation cannot be separated from the quality of education. "The new education pattern system demands new factors and conditions, both with regard to physical and non-physical facilities. Current development requires the world of education to always strive to improve education quality. This research was carried out in the form of classroom action research (PTK) which refers to the action research model put forward by Kemmis and MC. Based on the results obtained from the data obtained during the study in class VI of SD Inpres Kolongan Atas. It can be concluded that as follows; Application of Problem Based Learning Models can improve thinking skills in order to solve problems and learn to become independent learners and dare to express opinions in all situations and conditions. Before using the Problem Based Learning Model, students tend to be true listeners because the teacher uses the lecture method and the participants educate*

No brave For put out his opinion. Interaction between students and between students and teachers is getting better so that it has a positive impact on an atmosphere that is conducive to learning science. The learning process becomes more meaningful with the implementation of the Problem Based Learning Model.

Keywords: *learning models, creativity, student learning outcomes.*

INTRODUCTION

Education is a teaching and learning process that can produce expected changes in behavior. Education is basically also an interaction between educators and students in order to achieve educational goals that take place in a certain environment, which is usually called educational interaction, namely the mutual influence between the two. In addition, education is also recognized as an effort to grow and develop potential in a positive direction.

The progress of a nation cannot be separated from the quality of education. "The new education pattern system demands new factors and conditions, both with regard to physical and non-physical facilities. Current development requires the world of education to always strive to improve educationquality. It is well known that in achieving quality education, education should be oriented toward national education goals, namely to develop the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent and become citizens. democratic and responsible

The meaning of education is also contained in Law no. 20 of 2003 article 1 paragraph 1 which states "Education is a conscious and planned effort to create a learning atmosphere and learning process so

that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills that are needed by himself, society, nation and state. Then the Functions and Objectives of National Education are contained in article 3 of Law no. 20 of 2003 which reads:

"National education functions to develop capabilities and shape dignified national character and civilization in the context of educating the life of the nation, aiming at developing the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become a democratic and responsible citizen."

The government has attempted to make changes and reforms related to teacher factors through Law no. 14, 2005 concerning teachers and lecturers, and government regulation (pp) no. 19, 2005 concerning National education standards. The government has actually improved the quality of education with various reforms, including training and increasing teacher competence, procuring books and learning tools, improving facilities and infrastructure, and improving the school management system so that further education is locally oriented with a national and global perspective.

The consequence of all these efforts is that the teacher is the key and the spearhead of achieving the mission of educational renewal. They are at the central point for organizing, directing and creating an atmosphere of teaching and learning activities to achieve the goals and mission of national education in which the process of achieving this mission becomes more challenging in this increasingly sophisticated era of globalization.

The meaning of education itself, in the Law on the National Education System Number 20 of 2013, states that education is a conscious and planned effort to create a learning atmosphere and teaching and learning process so that students actively develop their potential, society, nation and state.

The following is the meaning of education according to education experts:

Martinus Jan Langeveld (1980), Education is a human effort made to guide immature humans towards maturity. The provision of education is carried out by helping students to carry out their life tasks so that they can be independent and morally responsible. In this case, education is also interpreted as an effort to build children to be more mature.

Carter V. Good (1971:1), education is an effort to develop individual skills, both in attitude and behavior in society. In other words, education is a social process in which an organized environment such as school and home is able to influence a person to develop attitudes and behavior skills within oneself and in society.

HH Horne (1937), education is a tool in which the social community is able to continue its existence in influencing itself and maintaining idealism.

Creativity as an aspect that plays a role in children's learning achievement at school needs to be developed. This is intended to increase the potential of the child as a whole and for the advancement of science. Many educational units are trying to make changes to make their students more developed and qualified. The changes made are starting from the learning approach/learning strategyto the curriculum which is always changing/developing every year. Even though there have been changes, in reality what has been improved is only the learning achievements of students. This hinders a student in developing his creativity.

The creativity of students is hampered solely not because of one system, but there are several factors that must be considered. The very dominant factor in hindering the development of creativity in students is the teaching style which seems boring which is commonly referred to as the lecture method which is carried out by most educators. So far, most educators still carry out teaching using the lecture method with the understanding that educators know more than students. In fact, if you look at the current era, it is not impossible for students to know more about what educators do not know, thanks to technological advances that are easily accessible to anyone.

RESEARCH METHODS

This research was carried out in the form of classroom action research (PTK) which refers to the action research model put forward by Kemmis and MC. Taggrat (in Aqib Zainal, 2006:22) which consists of four stages, namely: planning, implementation, action, observation, reflection. This research will be carried out in two cycles with a research flow that can be described as follows:

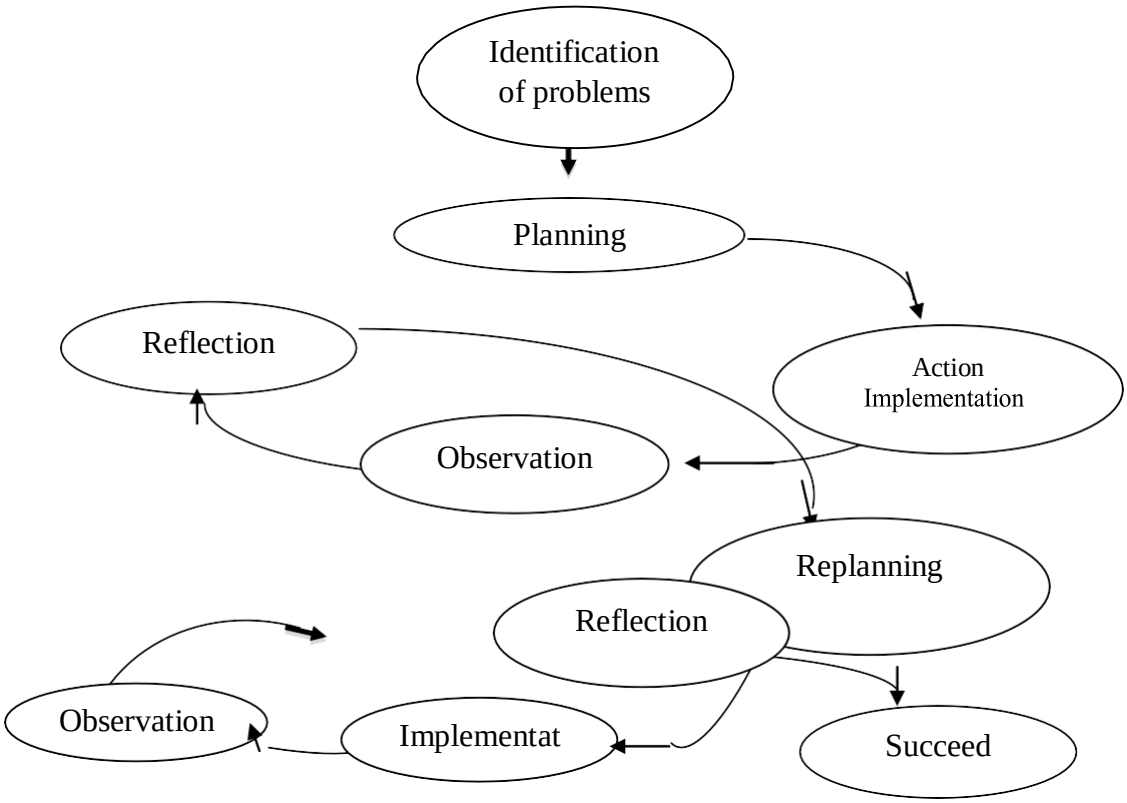

Figure 1. The flow of classroom action research adopted from Kemmis and Mc. Taggart (Aqib Zainal, 2006: 22).

DISCUSSION

After developing the lesson plan, the researcher is ready to carry out research with the RPP that has been prepared. Cycle I research was carried out on Tuesday 11 January 2023 at the three-fourth minute lesson at 09.30-10.00 WIB with a time allocation of 2 x 35 minutes.

In carrying out the research, the researcher acted as a teacher and collaborated with the science subject teacher for grade VI to observe teacher activities and student activities using observation sheets that had been made and compiled. The learning actions carried out in the first cycle were 1 meeting as follows:

1. The teacher conditions the class (says greetings, prays together, takes attendance of students, makes agreements with students and conveys learning objectives.
2. The teacher creates a classroom environment that allows for an open exchange of ideas by conducting question and answer sessions with students. "What do you know about vegetative propagation in plants?" then the teacher gives an explanation related to vegetative propagation material in plants and sings songs related to vegetative propagation in plants.
3. The teacher directs the question or problem by giving a brief explanation regarding vegetative propagation in plants and asking the question "Is it true that vegetative propagation in plants?"
4. The teacher encourages students to express ideas openly by working together in groups of 5 to answer questions.
5. The teacher helps students find concepts based on problems by asking students to read material

descriptions about vegetative propagation of plants in science textbooks and science worksheets.

6. The teacher encourages openness, democratic processes and an active way of learning by the teacher helping the discussion process of students in groups.
7. The teacher guides students in presenting work results by asking students to present the results of group discussions.
8. The teacher helps students review the results of problem solving by providing reinforcement related to the discussion results that have been submitted.
9. The teacher evaluates the material by giving practice questions that must be done by students individually.
10. With the guidance of the teacher, students reflect on the learning process that has been implemented.

Based on observations from the use of the problem-based learning model (Problem Based Learning) it ran smoothly until the time of the last meeting. After observing the enthusiasm of students in participating in learning, it can be said that this learning model is effective enough to improve student learning outcomes in the science subject on vegetative propagation of plants being studied. Although students still do not understand the process of this learning model. Students have difficulty understanding cloud drawings and mentioning whether clouds are included in vegetative propagation of plants or not. Because clouds are also always in the sky and never come down to earth. So that some groups think that clouds are vegetative propagation of plants. One of them is the Rose and Lotus group. In this first cycle, results in an assessment of the performance results and products as follows:

Table 4.2 Results of Performance Assessment and Cycle I Products

No.	Group name	that aspect rated			Product Rating	Total Score	Mark	Information
		1	2	3				
1.	Rose	3	3	2	3	11	68.75	Not satisfactory
2.	Jasmine	3	3	3	4	13	81.25	Satisfying
3.	Orchid	3	3	3	3	12	75	Satisfying
4.	Lotus	3	3	2	3	11	68.75	Not satisfactory
Average							73,44	Not satisfactory

Maximum score= 12

$$\text{Value} = \frac{\text{Score obtained} \times 100}{\text{Maximum score}}$$

Information:

Mark	Information
90 – 100	Very satisfactory
80 – 90	Satisfying
70 – 80	Less satisfactory
0 – 70	Not satisfactory

Based on the group performance table in cycle I, it can be seen that the assessment of performance and product results reaches an average of 73.44. Thus in this first cycle the results of student performance learning were declared incomplete with unsatisfactory grades. After group discussion, students are given a written test in the form of objective questions to measure student learning outcomes. The value of the written test in the first cycle of the first meeting is presented in the following table:

Table 4.3 Assessment of Student Learning Outcomes Cycle I

No.	Student's name	Mark	Information
1.	R1	75	complete
2.	R2	70	Not Completed
3.	R3	60	Not Completed
4.	R4	71	Not Completed
5.	R5	70	Not Completed
6.	R6	75	complete
7.	R7	80	complete
8.	R8	70	Not Completed
9.	R9	75	complete
10.	R10	80	complete
11.	R11	75	complete
12.	R12	71	Not Completed
13.	R13	80	complete
14.	R14	80	Not Completed
15.	R15	60	Not Completed
16.	R16	0	Not Completed
17	R17	75	complete
18	R18	80	complete
19	R19	75	complete
20	R20	75	complete
21	R21	80	complete
22	R22	85	complete
23	R23	70	Not Completed
AVERAGE		74,18	Not Completed

a. Class grade point average

$$M = \frac{\Sigma X}{\Sigma N}$$

$$M = \frac{1644}{23}$$

$$M = 71{,}48$$

Information

M = The average size sought

∑= Total value of all students

N = Total number of students

b. The percentage of learning completeness

$$P = \frac{F}{N} \times 100\%$$

$$P = \frac{11}{23} \times 100\%$$

$$P = 47{,}83\% \text{ (sangat kurang)}$$

Information:

P = Percentage to be searched

F = The number of students who complete learning in class

N = Number of students in class

From the results of the data exposure above, there are still some students who have not completed

the initial learning, in this case student learning outcomes have increased gradually from before the research was carried out at 47.83% after the first cycle of research was carried out, the success rate for achieving student success increased by 60, 87% which then continued to cycle II.

Based on the table of multiple choice/fill-in test scores in cycle I, above it can be said that there has been an increase in the success of learning in class, when compared to the results of daily tests conducted before the use of the problem-based learning model. The success rate of student learning outcomes can be seen from the success rate of class stage learning outcomes in this first cycle of 60.87% which were declared incomplete, while 39.28 failed because the test scores were less than the KKM set by the school.

Table 4.4 Results of Performance Assessment and Cycle I Products

No.	Group name	that aspect rated			Product Rating	Total Score	Mark	Information
		1	2	3				
1.	Rose	3	3	2	3	11	68.75	Not satisfactory
2.	Jasmine	3	3	3	4	13	81.25	Satisfying
3.	Orchid	3	3	3	3	12	75	Satisfying
4.	Lotus	3	3	2	3	11	68.75	Not satisfactory
Average							73,44	Not satisfactory

Maximum score= 12

$$\text{Value} = \frac{\text{Score obtained} \times 100}{\text{Maximum score}}$$

Information:

Mark	Information
90 – 100	Very satisfactory
80 – 90	Satisfying
70 – 80	Less satisfactory
0 – 70	Not satisfactory

Based on the group performance table in cycle I, it can be seen that the assessment of performance and product results reaches an average of 73.44. Thus in this first cycle the results of student performance learning were declared incomplete with unsatisfactory grades.

From the results of the data exposure above that there are still some students who have not completed the initial learning, in this case student learning outcomes increased gradually from beforethe research was carried out 47.83% after the first cycle of research was carried out the level of success in achieving student success increased 60.87 % which then continued to cycle II.

Based on the table of multiple choice/fill in test results in cycle I, above it can be said that there has been an increase in the success of learning in class, when compared to the results of daily tests conducted prior to the application of this learning model (Problem Based Learning). The success rate of student learning outcomes can be seen from the success rate of class stage learning outcomes in this first cycle of 60.87% which were declared incomplete, while 39.28 failed because the test scores were less than the KKM set by the school.

CONCLUSION

Based on the results obtained from the data obtained during the study in class VI of SD Inpres Kolongan Atas. It can be concluded that as follows:

1. Application of the Problem Based Learning Model (Problem Based Learning) can improve thinking skills in order to solve problems and learn to become independent learners and dare to express opinions in all situations and conditions.

2. Before using the Problem Based Learning Model (Problem Based Learning) students tend to be true listeners because the teacher uses the lecture method and students do not dare to issue his opinion.
3. Interaction between students and between students and teachers is getting better so that it has a positive impact on an atmosphere that is conducive to learning science.
4. The learning process becomes more meaningful with the implementation of the Problem Based Learning Model.

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