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The Increases Critical Thinking Skills Through Model Problem Based Learning in Fifth Grade Students Elementary School

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Abstract

This study aims to improve critical thinking skills in elementary school fifth grade students through the model of Problem Based Learning. The research location is SDN Jepara I/90 Surabaya, the study population is students of fifth grade were 30 students. In this study using a Class Action Research (PTK) conducted by 2 cycles, with several stages of the planning phase, the implementation phase, the stage of observation and reflection stages. Data collection techniques were used that test in the form of a written test and non-test in the form of observation, that observation the activities of teachers and students' activity. The results showed that there was an increase from the first cycle to the second cycle. For the activity of teachers in the first cycle, shows the percentage of the 70% rate, and the second cycle percentage increased by 90%. Activity percentage of students in the first cycle the value of 75%, while in the second cycle of student activity increased by 95%. Then increase students' critical thinking skills can be seen from the results of evaluation of students by 70.5% in the first cycle to 89.62% in the second cycle.

Keywords: Critical Thinking Skills, Model, Problem Based Learning

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Introduction

Education plays an important role in generating qualified young generation. So, the teacher has the task of improving the quality, creativity, and develop the potential of their students (Anugraheni, 2017, p. 247). It relates a good learning will not be realized if someone has not mastered a good thing. Moreover, competition is alive in this era of globalization is also very tight. This intense competition has affected all aspects of life including the field of education. In the era of modernization, as now, the education system in Indonesia is expected to equip students with study skills, and life skills, one of which is the ability to think critically.

Critical thinking skills are important and necessary skills in life, given that today's science and technology is developing very rapidly. This resulted in rapid changes in living arrangements as well as global changes in life. If students are not equipped with critical thinking skills, students do not have the ability to retrieve, process, and use the information they have to face the challenges of everyday life. Critical thinking skills of each individual is different, depending on the exercise that is often done to develop critical thinking (Fakhriyah, 2014, p. 96). Critical thinking allows students to study the problem systematically, faces many hurdles in an organized manner, to formulate questions innovative, and devise appropriate solutions to the problems faced. According Sochibin (2009, p. 17) states that critical thinking skills can cultivate understanding and curiosity of students, especially in the matter of ecosystems and their relationship to learning outcomes is very powerful because the thinking skills possessed by students, students can solve problems and easy to understand material on the subject with a good ecosystem.

Paul and Elde (2007, p. 8) states that "The only capacity that can be used to learn is the ability to think". One of the critical thinking skills that are developed critical thinking skills. According to Eggen & Kauchak (2012, p. 87) argues that human beings have a natural tendency to think critically. People who have high achievement motivation too often think the same is not critical than those who have low achievement motivation. Need critical thinking skills are taught in the learning process so that students have the ability to resolve the problems faced. This is in line with the opinions Yaumi (2012, p. 67) posited a "critical thinking is the cognitive ability to say something with conviction because it rests on logical reasons and empirical evidence.

The problem that occurs due to the way teachers teach with lectures delivered material, making it less able to attract the attention and interest of the students to learn IPS. Material presented are not directly attributable to the lives of students, so that students do not know the link between social studies learning with everyday life. The condition affects the underdevelopment of students' thinking skills, especially the ability to think critically. This can result in the student having trouble resolving its problems. Observing these conditions, need to immediately look for a solution to overcome these problems. Teachers need to innovate learning by applying the learning model that can generate student interest in learning so as to improve students' critical thinking skills. Therefore, it takes a model student-centered learning, so that students can find information and be able to solve certain problems. The learning model is expressed by Joyce (1992, p. 4), the learning model is the arrangement used as a guide to design learning in the classroom or the stage of determining learning design in a variety of media sources. Meanwhile, according Suprijono (2013, p. 45), the learning model is an appropriate form as the process runs, the change that allows someone to do the appropriate model.

From some of these definitions, it can be concluded that the learning model means a teaching plan that shows "learning patterns" certain. Pattern in question is the visibility of activities that teachers, students and teaching materials that are able to create student learning, also systematically arranged on a series of learning events.

Based on the results of preliminary observations made on February 4, 2019 in Jepara SDN I / 90 Surabaya found several problems in learning, namely: 1. When the learning process, students are busy playing their own, less enthusiastic, and quickly bored, 2. students still has not been able to understand and solve problems related to the material presented, so it looks at the results of student learning are still many who have not met the criteria for Complete Minimal, but only some students were attentive and able to solve problems related to the material properly, so there are students who are active and passive in learning activities, 3. learning more runs in one direction only, because it is still centered on the teacher, without making students more active in learning.

Noting the problems encountered, inaccuracies learning model selection to be the cause in this study. One model of learning that can improve the ability to think is a learning model that is capable of learning takes place in a real context. Learning that involves real world will make the learning process more meaningful. One model of learning in a real context that is considered capable of empowering the ability to think is a model of Problem Based Learning. Nurhadi (2003, p. 55) states of Problem Based Learning is a learning using the issue as a context for learners to learn about critical thinking and problem solving skills, as well as to acquire the knowledge and the essential concepts of the subject matter "According to Sumarmi (2012, p. 148) stated that the problem-based learning can help students develop skills in providing the rationale and thinking when searching for data or information in order to get a solution to a problem. In PBL students are led to solve, analyze and evaluate a problem. Students will be directly involved in efforts to solve the problem using thinking skills, experience and concepts to be found in solving the problems presented. In addition, students are trained to try to think critically and develop analysis capabilities as well as being an independent learner. In PBL students are led to solve, analyze and evaluate a problem. Students will be directly involved in efforts to solve the problem using thinking skills, experience and concepts to be found in solving the problems presented. In addition, students are trained to try to think critically and develop analysis capabilities as well as being an independent learner. In PBL students are led to solve, analyze and evaluate a problem. Students will be directly involved in efforts to solve the problem using thinking skills, experience and concepts to be found in solving the problems presented. In addition, students are trained to try to think critically and develop analysis capabilities as well as being an independent learner.

The learning model Problem Based Learning can be a solution to overcome the lack of critical thinking skills of students in fifth grade SDN Jepara I / 90 Surabaya in learning. The use of the model of Problem Based Learning in the learning process can help students to solve problems, learn on their own, working with the group, and gained extensive knowledge. According Etin (2007, p. 1) that the accuracy of the teacher in choosing learning model will affect the success of the students. The problem of this study is whether the use of Problem Based Learning model of learning can improve students' critical thinking skills in fifth grade SDN Jepara / 90 Surabaya ?.

Problem Based Learning Model could be the solution of problems of learning supported by research conducted by Gholami, M., et.al. (2016) in Nurse Education Today. Vol.

45, no. 2, pp. 16-21 which concluded that no significant changes in the students' critical thinking skills through lectures, but after a problem-based learning a significant increase. Problem Based Learning Model also provides a learning experience for students full and rich. Barrett and Moore (2011, p. 9) explains that the learning experience is not only seen as a process of transformation of knowledge, but rather to a challenging learning process.The use of Problem Based Learning model of learning can help students develop critical thinking skills in accordance with the research Fakhriyah (2014, p. 96) in the Journal of Science Education Indonesia. Vol. 3, No. 1, pp. 26-29. This is because in learning Problem Based Learning students can master and solve problems related to the subject matter appropriate their real lives. Therefore, from the problems mentioned above, researchers conducted a study entitled "The Increases Critical Thinking Skills Through Model Problem Based Learning In Fifth Grade Students Elementary School".

Method

Research type used is a Class Action Research (CAR). Location of the study conducted in SDN Jepara I / 90, located at 84 Raya Purwodadi Screet Surabaya. The research activities carried out in February 2019. The subjects were fifth grade teachers and students of fifth grade SDN Jepara I/90 Surabaya with the number of 30 students. Number of male students there are 13 students and female students there are 17 students. The research was conducted in the form of collaborative work among researchers with collaborators V. classroom teachers assigned to assist researchers in conducting learning by using a model of Problem Based Learning and observing students during the learning. PTK design in this study using the model proposed by Kemmis & Mc Taggart (1995, p. 4), which consists of several stages of the planning, implementation, observation, and reflection. Model PTK continuous spiral, when the target results of action taken has not been achieved to the maximum, then proceed with the next cycle. PTK design and Mc Taggart Kemmis models as follows:

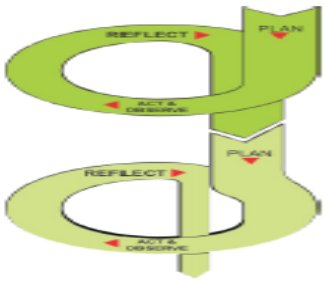

Figure 1. Model Kemmis and Mc Taggart

Data collection tools and techniques used in this study is a test in the form of a written test. Data collection techniques in the form of tests designed to analyze the improvement of students' critical thinking skills and are provided at the end of learning. The research instrument using an evaluation sheet. The evaluation questions tailored to the learning indicators given by the teacher. Nontes data collection techniques were used that observation activity of students and teachers in the learning activity. Classroom action research is a case study in class results are not generalisable, it is sufficient to describe the data analysis of the data collected. Statistical techniques of data used are descriptive statistics. Each of these variables was analyzed with reference to the criteria set.

Results and Discussion

Result

In this section, will present the results and discussion of classroom action research conducted by researchers with the title "The Increases Critical Thinking Skills Through Model Problem Based Learning In Fifth Grade Students Elementary School". This research was conducted in two cycles to obtain data regarding the activities of teachers , student activities, and increase students' critical thinking skills. Here are the results of the acquisition of observational learning implementation using a model of Problem Based Learning:

1. Observations with the use of Model Teachers Activities Learning Problem Based Learning

Table 1. Data Observation Activities Teachers

No.	Teacher activity	first cycle	cycle II
	pre-Exposure		
	Giving greeting.	2	2.5
	Pray together.	3	4
	Preparation		
	Delivering the learning objectives.	3.5	4
	Doing apersepsi.	2	3.5
	Initiation and Acquisition		
	Presenting the problems to be discussed in the group.	2	2.5
	Elaboration		
	Guiding students to groups in an orderly manner.	3.5	4
	Incubation and Inserting Memory		
	Asking students in solving problems related to the material.	2	3.5
	Asking students to re-read the material that has been discussed.	2.5	3.5
	Verification and Testing Beliefs		
	Asking students to solve the problems relating to the material.	2	3.5
	Celebrations and Integration		
	Reward for groups and individuals.	3	4
TOTAL		**25.5**	**35**
Percentage (%)		**70%**	**90%**

Based on data from the above observations, the results of teacher activity observation of the first cycle to the second cycle has increased signifikasn. Activities of teachers in the learning process has an important role to improve the quality of learning. Increased activity of this teacher, impact on the success of students in mastering the material. By learning from the comparison in the first cycle and the second cycle teachers become more able to master classes in the learning process. For more details, an increase in the activity of teachers, it can be seen in diagram 4.1 below.

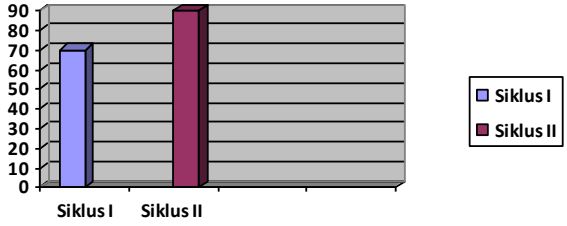

Diagram 1. Percentage of Teachers Activities

2. Observations with the use of Student Activities Learning Model Problem Based Learning

Table 2. Data Observation Activities Student

No.	Student activity	first cycle	cycle II
	Pray before the start of learning.	3	4
	Listen and pay attention to the explanation of the teacher at the beginning of learning.	2.5	3.5
	Discussion groups orderly in solving problems related to the material being taught.	2.5	4
	Presenting the results of the discussion.	3	4
	Make a summary of the learning materials.	2.5	4
	Evaluation work on the problems.	2	4
	Provide conclusions at the end of learning.	2.5	3.5
TOTAL		**18**	**27**
Percentage (%)		**75%**	**95%**

Based on data from the above observations, the activity of the students from the first cycle to the second cycle also experienced a significant increase. In the first cycle of student activity not meet the standards of completeness, it made attempts to repair, in order to reach the standards of completeness and all the desired indicators in this study, and the learning process can run optimally in achieving its objectives. Here is a diagram that shows there is an increase in the activity of students from the first cycle to the second cycle can be seen below:

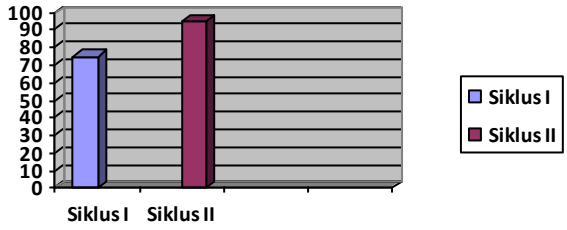

Diagram 2. Percentage of Students Activities

3. Results Calculation of Critical Thinking Skills Improvement Through The Use Of Model *Problem Based Learning*

Table 3. Results of Students Critical Thinking Skills

cycles	
I	II
70.5%	89.62%

Based on table 4.3 above, then from the first cycle to the second cycle results of students' critical thinking skills class V SDN Jepara I / 90 Surabaya by using the model Probelm Based Learning can be increased significantly. In the first cycle not meet the standards of completeness that is 70.5%, so it has yet to reach more than or equal to 80%, the necessary improvements for the next cycle. In the second cycle the result is increased or increased significantly by 89.62%, so as to meet the standards of completeness. Here is a diagram increase critical thinking skills fifth grade students of

SDN Jepara I.90 Surabaya can be seen below:

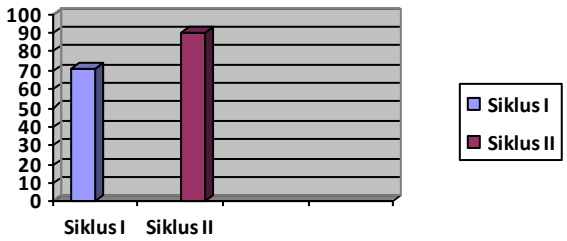

Diagram 3. Percentage of Students Critical Thinking Skills

Discussion

In lessons teachers increased activity provides a very important role for the quality of student learning. The ability and skills of teachers in presenting a learning innovation affect the achievement of learning success. In the process of learning, a teacher may act as a planer or instructional designers, even as implementer or both (Sanjaya, 2008, p. 15). Therefore, the effectiveness of a lesson is the responsibility of a professional teacher. Using the model of Problem Based Learning in learning, there are several aspects that must be done by teachers, including pre-exposure phase, preparation, initiation and acquisition, elaboration, incubation and insert a memory, verification and checking of confidence, as well as celebrations and integration (Jensen, 2008 , p. 484). According to Trianto (2007, p. 1) learning model is a plan or a pattern that is used as a guide in learning in the classroom or learning in the tutorial. Thus, the model of Problem Based Learning is a learning model that is used to stimulate students' higher-order thinking in a situation-oriented real-world problem, including learning how to learn (Ibrahim, 2012, p. 19).

In the first cycle of pre-exposure phase that teachers guide students to pray before starting the learning process, teachers can condition students to be ready to start learning, so teachers have shown activity was quite good, although not as much as possible. During the preparation stage, namely teachers capable of delivering learning objectives associated with the material being taught, but teachers still have not been able to express clearly and coherently. Recap given by teachers not refer to the material being taught, so students still feel confusion or difficulty in understanding the material. At the initiation stage and this acquisition is good enough teachers. Teachers can present issues that should be discussed as a group of students. The elaboration phase, teachers are still less able to guide students in a group, so that the learning environment does not run with the condition. In the incubation stage and insert this memory, the teacher asks the students to summarize / summarize back material that has been taught and relearned, as well as at the stage of verification and checking of confidence, and celebrations and this integration has been executed quite well, but has not increased according to the standard completeness and indicators in the study.

While on the second cycle, the teacher demonstrated the ability to teach him to be better than the first cycle that is below standard completeness. Shortage of teachers in the first cycle is restored performed in the second cycle, such as the activity of teachers in apersepsi. In the first cycle, the teacher is still lacking in tapping the knowledge of students, so it gets a score of 2. Then in the second cycle, more interactive teacher to encourage students to solve problems and express his opinion on the matter previously.

Improvement was also seen in the elaboration stage, initially in the first cycle, the teacher can not be conditioned and guided their students in a group, so that the class be not conducive, but on the second cycle of teachers has been very good in conditioning the students in the group. Then a significant improvement is demonstrated also in each of its phases in the use of the model of Problem Based Learning. Therefore, in the percentage of first cycle to the second cycle, the activities of teachers has risen from 70% to 90% with the criteria very well.

According to Ennis (2011, p. 56) explains that critical thinking is to think reasonably and reflective by emphasizing the act of a decision about what to believe and do, while advanced by Setiono (2007, p. 30) states that critical thinking is wrong one kind of thinking that is convergent, which is heading to a point of success. The successful use of Problem Based Learning models shown in the increased activity of students. It is also stated by Fisher (2015, p. 11) states that, "thingking critical skill is that actives to interprate and Evaluate of observations, argumentation, communications, or information". This means that the critical thinking skills to evaluate and assess observations, information, and arguments. As with teachers, Another factor that can affect the success of the learning process, namely students. Each student has the uniqueness of each, one of which is the difference of intelligence or the ability to think. Individual differences in the intellectual field or the ability to think of each of these students, the teacher should know and understand, especially in hubungannyadengan grouping students and providing guidance to the student (Djamarah, 2000, p. 58). In line with that proposed by Suyono (2015, p. 13) model of Problem Based Learning students are invited to enhance the brain's ability to process critical thinking, so that it will produce a meaningful learning. Individual differences in the intellectual field or the ability to think of each of these students, the teacher should know and understand, especially in hubungannyadengan grouping students and providing guidance to the student (Djamarah, 2000, p. 58). In line with that proposed by Suyono (2015, p. 13) model of Problem Based Learning students are invited to enhance the brain's ability to process critical thinking, so that it will produce a meaningful learning. Individual differences in the intellectual field or the ability to think of each of these students, the teacher should know and understand, especially in hubungannyadengan grouping students and providing guidance to the student (Djamarah, 2000, p. 58). In line with that proposed by Suyono (2015, p. 13) model of Problem Based Learning students are invited to enhance the brain's ability to process critical thinking, so that it will produce a meaningful learning.

Based on the shortcomings in the first cycle, it needs to be fixed on to the second cycle. In the second cycle, the implementation of learning is already better than I. cycle Student activity that is in excellent visible when students pray before the start of learning. Student activity also increased when students solve problems, create a summary and evaluation work on the problems. Activities of students in the first cycle is not good enough, increased subsequent to the second cycle is the time to listen or pay attention to the explanation of the teacher and discuss the material with an orderly group. There is increased activity with the students in the second cycle, making the implementation of learning Problem Based Learning model with more meaningful and effective. This is in line with research conducted by Benjamin, et.al. (2016), in the Journal of Education and Practice. Vol. 7, No.33, pp. 1782-1791 which concluded that improving students' critical thinking skills have increased substantially during the learning takes place using model Problem Based Learning. Therefore, in the second

cycle students better activity with a percentage of 95% rather than the first cycle with a percentage of 75%.

Other findings that support this research undertaken by Aweke, et.al. (2016), in the Journal of Mathematics Science and Technology Education. Vol. 13, No. 3, pp. 857-871 concludes that the thinking skills of students in learning can be enhanced by using a model of PBL. Model PBL is a more effective learning model for teaching social studies materials, compared with conventional learning models. The findings are in line with research is also done by Pebriana & Disma (2017), inside of Elementary Education. Vol. 1, No. 1, pp. 36-39 of this study have similarities in improving students' critical thinking skills through Problem Based Learning model of which is suitable for use in the learning process in primary school.

As explained above, this study aims to improve students' critical thinking skills through the model of Problem Based Learning. Critical thinking skills students are assessed through a written test in the form of evaluation questions are 15 questions. After the implementation of learning by using learning model Problem Based Learning and conducted observations in the first cycle, critical thinking skills students have not reached the standard of completeness and all indicators of success that has been determined. Then, the error is known from the reflection stage, then improved again in the second cycle. In the second cycle, learning by using learning model Problem Based Learning extremely experienced a significant improvement, compared to the first cycle with a percentage of 70.5% to 89.62%.

Conclusion

Selection of appropriate learning models can enhance students' critical thinking skills that have not been able to solve problems and master the material appropriately. A teacher must be selective in choosing a model of learning and tailored to the student's ability, so that students can find information and solve issues related to the material being taught to the optimum. From the results, the model of Problem Based Learning can improve students' critical thinking skills and can create effective learning. Effectiveness in the learning process can be seen from the increase in the activity of teachers and students' activity during the learning process by using model Problem Based Learning in Elementary School fifth grade students. This is shown by the increased percentage of teachers activity obtained from the first cycle to the second cycle. The increase also occurred in the critical thinking skills of students by increasing the percentage of students' critical thinking skills significantly from the first cycle to the second cycle. With the master and is able to solve the problem, students will be able to understand the learning materials, as well as useful to solve the problem of daily life.

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