Ikatan Sarjana Pendidikan Indonesia (ISPI) Jawa Tengah
Volume 8 Nomor 2,November 2021 ISSN 2442-6350

BUILDING CRITICAL THINKING SKILLS THROUGH PROBLEM BASED LEARNING MODELS IN 5TH ELEMENTARY GRADES

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ABSTACT

A Critical thinking skills are needed by students, especially in learning activities to be able to solve problems. Learning activities are expected to vary to achieve the learning objectives to be achieved. The use of problem based learning models can encourage students to be more active, especially in solving problems. This study aims to find out the improvement of students' critical thinking skills by using problem based learning models. This research uses qualitative research. This research was conducted at SDN Pucangan 03 Kartasura. The subjects used in this study were students of grade 5 (A) at SDN Pucangan 03 Kartasura. Data collection techniques used are observation and research instruments using observation sheets. The results showed that the application of the problem based learning (PBL) model could build students' critical thinking skills in the learning process. Research conducted shows that students' critical thinking skills have increased significantly with the existence of learning activities using problem based learning (PBL) models. The results showed an increase in students' skills in the learning process by 81% of the total number of students. From these results it is known that as many as 22 students demonstrate critical thinking skills well, however there are 5 students who can demonstrate critical thinking skills but with the guidance of the teacher.

Keyword: Problem based learning, Critical thinking, Thematic learning

INTRODUCTION

During this time the learning activities carried out at each school are various. Every school has achievement targets that are expected in learning activities. Learning activities at school are starting to be connected with the surrounding environment and related to everyday life. There are many things that can be developed and given to students in learning activities. One of the activities given by the teacher to students is to provide material gradually in each lesson so that students can understand the material optimally. However, it is considered still not effective enough to get students actively involved in learning activities and get an understanding of the material being taught. Learning activities are expected to vary in order to create fun and not boring learning activities so that students can participate in learning activities to the maximum. A fun learning approach can improve student attitudes in learning, especially studying science

(Anggoro, Sopandi, and Sholehuddin 2017).

Currently it is being promoted to develop children's creativity and extract information possessed by students to be able to develop knowledge by involving children. In learning activities in schools need to provide students the opportunity to analyze the material in accordance with the knowledge and abilities possessed by each student. According to (Arends 2013) that the planning done by the teacher when giving material to learning activities is very important because it can provide the essence of the desired direction of learning. Then the learning activities must involve students so that the material learned can be optimally accepted by students. In this 21st century learning activities must be to invite students to be able to think based on experience and knowledge that is in accordance with the material being studied. The application of fun learning and composing creative learning concepts is needed to achieve learning activities (Irwansyah et al. 2019). Teachers must be able to present interesting and well-organized lessons, use incentives for learning that are adjusted to the level of student preparation, plan and manage student learning time to be able to create an effective learning environment (Slavin 2011).

Many things students can do in learning activities to achieve the goals specified in learning activities. One of them is critical thinking skills. Critical thinking is an activity carried out to decide something from the results of interpretation, analysis, evaluation and inference (Facione 2011). Critical thinking is a systematic process that provides opportunities for students to formulate and evaluate beliefs in their own opinions (Fachrurazi 2011). Critical thinking skills are expected to be possessed by every student in learning activities, both to solve problems and learning activities. At elementary school age, children have differences in the ability to speak about things that are known both in the school environment and outside of school. So, the child's ability to think critically and express his opinion about something between one child and another is different (Firmansyah 2018). Understanding in critical thinking skills aims to develop ideas that are directed in everyday life (Johnson 2007). Critical thinking indicators are classified into five, including: providing simple explanations, building basic skills, drawing conclusions, providing further explanations, the last is managing strategies and tactics (Ennis and Weir 1985).

The use of various activities in carrying out learning is very necessary to achieve learning objectives. Many ways are used to create varied learning

activities, besides that varied learning can also train students to learn critical thinking with various analyzes and activities created by the teacher. One of the learning models needed in student learning activities is the problem based learning (PBL) model. The use of problem-based learning models has a good effect on student learning outcomes (Kaharuddin 2019). Learning with the problem based learning model is an activity that activates students to learn together in order to create meaningful learning. The problem based learning model makes students work on the tasks of the teacher by helping each other in one group (Isjoni 2009). The teacher has an important role in creating interesting learning activities for learning activities carried out with students. Then the learning activities undertaken by the teacher affect the achievements of the students. In accordance with the opinion of (Arends 2013) that planning by the teacher when giving material to learning activities can provide the essence of the direction of learning. The use of the right book according to the learning activity also has an effect. The use of textbooks with a scientific approach can help and make it easier for students to understand the material being studied (Elvita, Amini, and Ahmad 2019). teacher when giving material to learning activities can provide the essence of the direction of learning. The use of the right book according to the learning activity also has an effect. The use of textbooks with a scientific approach can help and make it easier for students to understand the material being studied (Elvita, Amini, and Ahmad 2019).

Many things are needed in learning activities to develop learners' learning activities. There are several factors that affect the effectiveness of learning, both from teachers and from students. Teacher creativity has an influence on the delivery of material to students. In addition, critical thinking skills are also able to influence learning activities. These skills become one of the important factors that can support one's success in learning. Currently learning activities in the 2013 curriculum use thematic learning. Thematic learning is a learning approach that integrates various competencies from various subjects into themes with a meaningful learning process adapted to the development of students (Akbar et al. 2016). One effort made is to conduct research to determine the use of learning models that can improve students' critical thinking skills in thematic learning in accordance with the curriculum used today. This is in line with the opinion of (Yunus 2014) that the problem based learning model encourages students to be able to think at a high level and encourages students to be able to learn independently based on the knowledge and experience of each student. Then this

study was conducted to determine the increase in critical thinking skills when learning activities using problem based learning models.

METHOD

Explaining The research method used in this study is qualitative research. The data generated in this study are descriptive or words presented in accordance with the events in the study. Qualitative research is a method for exploring and understanding the meaning of a number of individuals and groups of people to solve a problem (Creswell and Creswell 2017). The location chosen for the research activity is SDN Pucangan 03 Kartasura, which is located at Jln. Sumantri No. 57, Pucangan, Kartasura, Sukoharjo, Central Java.

The data in this study consist of transcripts of observations. The research subjects used in this study were students of class 5 (A), and were carried out in odd semester 2018/2019. The number of students in class 5 (A) is 27 students. The data taken in the form of qualitative data, which is derived from the observations of students' observations in the learning process. Student's assessment of the level of critical thinking skills using a scale of 4 (very critical), 3 (critical), 2 (starting to look critical with teacher guidance), 1 (not showing skills and still passive).

The value obtained by students (in percentage form) will be summed and calculated using the formula, as follows:

Student grades= (the number of scores obtained by students)/ (maximum number of scores) ×100

The results of this assessment were analyzed using the score interpretation criteria adapted from (Riduwan 2007) in the following table:

Table 1. Conversion of Numbers Data to Qualitative Data with a Scale of Five

Score Percentage Interval	Score	Category
81 - 100	A	Very good
61 - 80	B	Good
41 - 60	C	Pretty good
21 - 40	D	Not good
0 - 20	E	Very bad

RESULT AND DISCUSSION

The results obtained from this study aim to determine the students' thinking skills in the learning process in thematic learning by using problem based learning models, as follows:

Table 2. Data on the Results of Critical Thinking Skills Assessment

Score Percentage Interval	Score	Number of Students
81 - 100	A	19
61 - 80	B	3
41 - 60	C	5
21 - 40	D	-
0 - 20	E	-

Based on the data in table 2 shows that students have critical thinking skills when carrying out learning activities using problem based learning models. These results can be seen when discussing both in groups and with teachers has increased, it appears that students dare to express the knowledge possessed by each student in accordance with the material provided. This is evidenced by the increase in students who have critical thinking skills. At the beginning of the study only 33% of students showed critical thinking skills, consisting of students who won 1-5 and were well-known students in the school. After learning activities using the problem based learning model, the number of students who showed critical thinking skills increased to 81% of students consisting of a combination of students who were able to demonstrate their skills and who had critical categories visible. Then from these results as many as 22 students have demonstrated critical thinking skills well. The percentage of completeness data indicators of critical thinking skills of students is presented in the following figure.

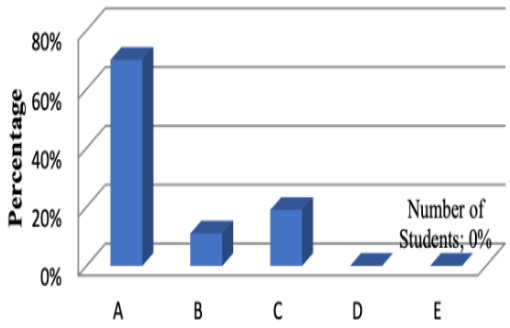

Figure 1. The Critical Thinking Skills Shown by Students

The data states that the critical thinking skills shown by students for category A grades are 70%, while B grades are 11%, C grades are 19% from the number of students in class 5 (A). So students who have good ability in expressing opinions briefly explain the knowledge possessed to show critical thinking skills increased by as much as 81%. And learning activities with the problem based learning model given are able to spur critical thinking skills possessed by each student after learning activities namely thematic learning activities.

Discussion

The data above provides an overview of the skills possessed by students before learning activities using the problem based learning model. The existence of learning activities using learning models can provide a good impact, where students' critical thinking skills have increased from each student. At the

initial conditions the percentage of students completeness regarding critical thinking skills was only 37% of the total class VA students. Students who demonstrate critical thinking skills are students who have grades 1-5 and well-known students in the school. In learning activities using the learning model that is problem based learning model shows that students' critical thinking skills have increased significantly with the existence of learning activities using the problem based learning (PBL) model. Students in the problem based learning model have the opportunity to express their knowledge and experience related to the material being studied, and this model provides space for students. Students for category A scores as much as 70%, while grades B are 11%, C values are as much as 19% of the total number of students in class 5 (A). Improved skills shown by students in the learning process as much as 81% of the number of students. Students who have not shown critical thinking skills in learning activities are as many as 5 children, where there are students who already understand the material but are embarrassed to think and some are still passive and find it difficult to participate in learning activities.

Thematic learning used in research includes social studies, PPKn, Indonesian which are integrated with one another. The application of the problem based learning (PBL) model is done after determining the learning objectives, considering, and referring to activities that will be assessed regarding students' critical thinking skills. This activity is carried out in order to solve the problem, formulate conclusions, gather various information, and make decisions in solving the given problem. Activities using the model of problem based learning (PBL) are able to train students to demonstrate critical thinking skills based on the knowledge possessed by each student, because each student has different skills. This model also provides an opportunity for each student to express what is known and encourage students to think in order to solve the problems given related to the material being studied. The steps in the problem based learning model help students understand the material in a tangible manner and students are actively involved in obtaining the material.

The application of problem based learning (PBL) models to thematic learning can provide broad opportunities for students to express their opinions and process information obtained from various sources to solve problems that arise or problems given

by the teacher during learning activities. The problem based learning (PBL) model is able to encourage students to use their knowledge to think critically and try to solve problems. Learners begin to think critically in an effort to analyze arguments carefully, look for the information they have that is related to the problem, and conclude in order to look for clarity of a problem that must be resolved carefully. Using the problem based learning (PBL) model can show the skills possessed by students in critical thinking in accordance with the knowledge possessed by each student. Students who were initially only passive were able to demonstrate critical thinking skills with the help of problem based learning models.

The results of the actions taken prove that the skills of students have increased with the application of problem based learning (PBL) models in thematic learning activities. Then it can be concluded that the application of problem based learning (PBL) models can build students' thinking skills that can be demonstrated in the learning process.

The application of problem based learning (PBL) models helps students in learning activities, where learning activities provide opportunities for students to express their knowledge in accordance with the material being studied. The problem based learning (PBL) model also directs students to explore their knowledge related to the material and provide direct experience to students in obtaining material as well as relating to the lives of students and in accordance with the surrounding environment. In line with the opinion of (Huang et al. 2017) that collaboration with colleagues in discussions and questions and answers in learning activities, as well as the mapping of cooperative learning concepts that offer learning environments in accordance with the surrounding environment can help students' critical thinking. In line with (Yunus 2014), that the problem based learning (PBL) model encourages students to be able to think at a high level. So learning activities using the problem based learning (PBL) model can improve students' critical thinking skills and encourage students to develop their knowledge. The use of the model is also able to make students able to independently solve problems related to the material being studied by discussing both with the teacher and with friends. Then the critical thinking skills of students can be built up well

when learning activities using a problem based learning model (PBL).

CONCLUSION

The application of problem based learning (PBL) models can build students' critical thinking skills in the learning process. This shows that students' critical thinking skills have increased significantly with the existence of learning activities using problem based learning (PBL) models. Improved skills shown by students in the learning process as much as 81% of the number of students. A total of 22 students have demonstrated critical thinking skills well, but there are 5 students who can demonstrate critical thinking skills but with the guidance of the teacher.

ACKNOWLEDGEMENT

To the government, UMS, and schools that provide opportunities to conduct research.

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