

## Efforts to Improve Critical Thinking Skills through Problem Based Learning Models in Class III SD Thematic Learning

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### 1. Abstract

Thematic learning trains students in dealing with problems in learning. The 4C competencies that students must have are Critical thinking, Creativity, Communication skills, and Collaboratively. With these competencies to support students to think critically. Critical thinking becomes an inseparable part of thematic learning. Critical thinking means one's ability to make judgments, analyze and assess an argument or fact. The purpose of this research is to improve critical thinking skills through the Problem Based Learning model in class III SD thematic learning. In this collaborative classroom action research it was carried out using the Kemmis and Mc Taggart models which consisted of planning, action, observation and reflection. The subjects in this study were 27 students. Data collected using observation sheets, documentation, and evaluation sheets. Data analysis techniques that researchers use are descriptive quantitative and qualitative. The results showed that there was an increase in critical thinking skills in the pre-cycle, cycle 1 and cycle 2, namely the average activity increased. The results of the pre-cycle 52% were in the less critical category, after the implementation of the first cycle of student activity increased to 72.4 % or the category was quite critical, but the results obtained in the first cycle were not in accordance with the achievement indicators that had been set because they still had not reached 80% with the completeness criteria of  $\geq 75$ . In cycle II the average student activity is 82.4 % or is in the critical category. As for the indicator of success, namely the indicator of critical thinking ability to reach a percentage, namely 80% of students can meet the minimum completeness criteria (KKM) which has been determined to be  $\geq 75$ , it is said that students have been able to have critical thinking skills. So, if 80% of students get a minimum completeness (KKM)  $\geq 75$ . So, it can be concluded that the application of the Problem Based Learning model can improve critical

thinking skills in elementary school students because the success indicators have been completed, or have reached a percentage of success indicators.

**Keywords:** *Critical thinking skills, Problem Based Learning, elementary school*

## 2. Introduction

Education (education) is a basic need for human life with the intention that every human being in Indonesia has the right to obtain education and dreams of developing in education (Hamidah, 2022:449). The education system is implemented in Indonesia, currently learning has developed a variety of skills and the independence of students in learning. The 4C competencies that students must have are Critical thinking, Creativity, Communication skills, and Collaboratively . With these competencies to support students to think critically (Agnis , et al , 2021: 137). Critical thinking is a rational thinking activity that empowers skills in setting goals so that it requires effort, will, and an attitude of not giving up easily in dealing with problems (Daniati, 2018; Masrukan, 2016; Ahmatika). Critical thinking has become one of the competencies for educational purposes and as a tool in constructing knowledge (Aini, 2020:79-82). Critical thinking becomes an inseparable part of thematic learning. Since 2013 the Indonesian government has implemented the 2013 curriculum in which learning is delivered in thematic form. Thematic learning trains students in dealing with problems in learning (Faturrohman, 2015). Thematic learning is designed to be able to awaken the high-level thinking skills of the nation's next generation (Kemdikbud, 2014). Critical thinking means one's ability to make judgments, analyze and assess an argument or fact (Basham, 2010). Critical thinking ability is the ability to act according to logical considerations. The ability to think critically to solve problems are two things that are needed by everyone in life, especially

when making a decision (Mery, 2019: 108). Students need to be faced with familiar problems that exist in everyday life so that their thinking skills develop properly. Through problem solving students will use the knowledge or experience they have. Practicing problem solving is an obligation of the teacher (Maliki, 2017).

Learning in class III of elementary schools that has been implemented so far has been running well and smoothly, but several problems were found during the learning process. The problems that occur are the lack of critical thinking skills of students, the learning resources of students that are used are only textbooks without any other learning media, and students feel less enthusiastic about participating in learning activities. Students tend to be passive in participating in learning activities and if they find learning problems, students have difficulty solving these problems. Even though students are expected to be able and accustomed to dealing with various problems that exist around them. Based on the results of observations carried out on Thursday , April 13 , 2023 in elementary schools in class III , the thematic learning carried out has not guided students to hone critical thinking skills , the learning methods applied are assignments, lectures, and practice questions, students are more dominant record the material presented by the teacher and then try practice questions, so that students' ability to think critically is not maximized.

One of the models used in learning to improve students' critical thinking skills is the Problem Based Learning model because the application of the Problem Based Learning model can train students to think critically and how to solve problems in real life. PBL is a learning model based on the principle of using problems as a starting point for the acquisition and interaction of new knowledge (Husen, 2017: 53-60). The Problem Based Learning learning model can be said to be a series of learning activities that emphasize

the process of solving problems faced scientifically (Hamdayana, 2014: 215). In addition, PBL is a learning model that uses a learning approach to an authentic problem, so that with that students can assemble their own knowledge, develop higher abilities, make students more independent and make students confident (Hosnan, 2014) . With the teacher's ability to use and choose learning models that are appropriate to the material being taught, it is expected that students can improve their critical thinking skills. With the Problem Based Learning model students can develop Critical Thinking Skills through the problems given in accordance with the material provided by the teacher in the learning process in the classroom. Through PBL students gain experience in dealing with realistic problems and emphasize the use of communication, collaboration , and existing resources to formulate ideas and develop skills in critical thinking (Suryani, 2019: 238).

Several previous studies have proven the effect of the successful Problem Based Learning (PBL) learning model carried out by Saputri, et al., entitled "Improving Critical Thinking Skills through Problem Based Learning and Media Picture Material Making Stories Class II SD Intis School Yogyakarta", which also produced achievement of mastery increased 80% at the end of cycle II. Another study also proved that the PBL model's steps towards critical thinking and communication skills were successfully carried out by Agnis Livia Arum Arfiani, et al., entitled "Improving Communication and Critical Thinking Skills of Grade 3 Students Theme 6 Sub-theme 2 Through the PBL Model at SDI Al Umar Ngarusuka". In both studies, the achievement of completeness increased equally. Based on the background above, researchers need to conduct Collaborative Classroom Action Research using the Problem Based Learning model for elementary school students in thematic learning. For this reason, the researcher chose the title "Efforts to Improve

Critical Thinking Skills Through Problem Based Learning Models in Class III SD Thematic Learning".

### **3. Methods**

#### **3.1. Participants and context**

The type of research used is the Classroom Action Research proposed by Kemmis and MC Taggart. PTK is an approach to improve education by making changes to it and learning as a consequence of changes (Susilowati, 2018). In this study using the model from Kemmis and Mc Taggart which consists of four stages, namely: planning, action, observation and reflection (Prihantoro, Agung, 2019: 56). The subjects of this study were elementary school students in grade III elementary schools, with a total of 27 students. This collaborative classroom action research was carried out in two cycles. The implementation of each cycle follows the stages of planning, action, observation and reflection.

#### **3.2. Material**

Research instruments are tools or facilities used by researchers in collecting data to make it easier. The instrument in this study was using an observation instrument filled in by the teacher and observers and an instrument of student evaluation questions. The observation sheet serves to assess the activities carried out by researchers in carrying out research. The instrument of student evaluation questions, in this assessment serves to determine the critical thinking skills carried out by students and the success of the teaching and learning process which is carried out at the end of each cycle.

#### **3.3. Data Collection and analysis**

Data collection techniques are the most strategic steps in research, because the main purpose of research is to obtain data. The data collection techniques taken included:

observation, documentation, and student evaluation tests . Observation techniques are used to collect data about activities during learning activities. Next is to use evaluation questions, which are given to students. It is used to collect data about students' critical thinking skills. While the documentation to strengthen the results of observation and evaluation tests.

### **3.4. Ethical Considerations**

All research or research involves humans as research subjects. Based on this, in this study there are basic principles of research ethics, including: the first is respect for people, in this case we must respect and value students, where these students are research subjects. Then the second is the benefits, in this study there are benefits, namely providing benefits to learning at school. Especially in thematic learning, namely to improve critical thinking skills. The third is not endangering research subjects, in this study, not endangering research subjects because during teaching and learning activities carried out in the classroom, not outside the classroom.

### **3.5. Limitations to the Study**

There are limitations that are owned by researchers related to time, effort, and cost, this research is limited to efforts to improve critical thinking skills through the Problem Based Learning model in thematic learning of class III SD. The main topic is to improve critical thinking skills with the rubric that has been provided. The material taught is related to all subjects or thematic through the application of the Problem Based Learning model.

## **4. Results and Discussion**

Collaborative Classroom Action Research (PTKK) consists of pre-action, cycle I and cycle II. This research was carried out in class III elementary school with 27 students as the subject. This critical thinking ability has 5 indicators that are used for research, namely

giving simple explanations, building basic skills, concluding, making further explanations, strategies and tactics. In conducting research, researchers used the Problem Based Learning (PBL) model. The Problem Based Learning learning model has several advantages, namely being able to improve critical thinking skills, fostering student initiative, and being able to develop interpersonal relationships in working groups. In addition to having advantages, this learning model also has several weaknesses, namely it needs to be supported by books that can be used as understanding in learning activities and also students will be reluctant to try. Researchers use the problem based learning model in an effort to improve critical thinking skills through the Problem Based Learning model in the thematic learning of class III SD. The steps from the problem-based learning model taken by researchers include a) orienting the problem, b) organizing students, c) guiding individual and group investigations, d) developing and presenting work, e) analyzing and evaluating the problem-solving process .

The results of research on critical thinking skills through the Problem Based Learning model in the thematic learning of class III SD, can be described as follows:

The implementation of learning is obtained from the teacher's learning implementation observation sheet. The implementation of learning in cycle I was 88 .63 %, meaning that learning was going well, but there were still aspects of learning that had not been conveyed. In cycle II the implementation of learning was 93.75 % , meaning that the syntax in Problem Based Learning was carried out in accordance with the learning plan that had been prepared.

Tabel 1. Distribusi frekuensi kemampuan berpikir kritis

No	Cycle 1	Cycle 2
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	<b>Interval Class</b>	Frequency	Percentage	Frequency	Percentage
1	90-100	3	11.11%	6	22.22%
2	80-89	9	33.33%	15	55.60%
3	60-79	7	26%	4	14.80%
4	50-59	5	18.52%	2	7.40%
5	< 50	3	11.11%	0	0
6	Amount	27	100%	27	100%

Based on table 1, the frequency distribution of critical thinking skills scores in cycles 1 and 2 is grouped into 5 classes. In cycle 1 with 27 students, there were 3 students who scored in class interval 90-100 with a percentage of 11.11%, 9 students who scored in class interval 80-89 with a percentage of 33.33%, 7 participants students who score in class intervals 60-79 with a percentage of 26%, 5 students who score in class intervals 50-59 with a percentage of 18.52% and 3 students who score in class intervals <50 with a percentage of 11.11 %. In cycle 2 with 27 students, there were 6 students who scored in the class interval 90-100 with a percentage of 22.22%, 15 students who scored in the class interval 80-89 with a percentage of 55.60%, 4 participants students who score in class intervals 60-79 with a percentage of 14.80%, 2 students who score in class intervals 50-59 with a percentage of 7.40% and no students who score in class intervals <50.

Tabel 2. Kriteria kemampuan berpikir kritis

<b>Interval class</b>	<b>Criteria</b>
90-100	Very critical
80-89	Critical



60-79	Pretty critical
50-59	Less critical
< 50	Very less critical

The use of the Problem Based Learning model can improve students' critical thinking skills as evidenced by the increase in each cycle. Based on the results of student activity during the pre-cycle, cycle I, and cycle II, the average activity increased. The results of the pre-cycle 52% were in the less critical category, after the implementation of the first cycle the activities of students increased to 72.4 % or the category was quite critical, but the results obtained in the first cycle were not in accordance with the achievement indicators that had been set because they had not yet reached 80% with the criteria completeness of  $\geq 75$ . In cycle II the average student activity is 82.4 % or is in the critical category.

The indicator of critical thinking ability reaches a percentage , namely 80% of students can meet the minimum completeness criteria (KKM) which has been determined to be  $\geq 75$ , it is said that students have been able to have critical thinking skills. So, if 80% of students get a minimum completeness (KKM )  $\geq 75$ . So, it can be concluded that the application of the Problem Based Learning model can improve critical thinking skills in elementary school students because the success indicators have been completed, or have reached a percentage of success indicators.

Several previous studies have proven the effect of the successful Problem Based Learning (PBL) learning model carried out by Saputri, et al., entitled "Improving Critical Thinking Skills through Problem Based Learning and Media Picture Material Making Stories Class II SD Intis School Yogyakarta", which also produced achievement of mastery increased 80% at the end of cycle II. Another study also proved that the PBL model's

steps towards critical thinking and communication skills were successfully carried out by Agnis Livia Arum Arfiani, et al., entitled "Improving Communication and Critical Thinking Skills of Grade 3 Students Theme 6 Sub-theme 2 Through the PBL Model at SDI Al Umar Ngarusuka". In both studies, the achievement of completeness increased equally. From this research, the improvement of critical thinking skills can be achieved through the Problem Based Learning model. The relevance of this relevant research is in line with this research that the application of the Problem Based Learning model is proven to be able to improve critical thinking skills in thematic learning of class III SD. This is evidenced by the results of the actions taken which have increased in each cycle with the percentages previously described. The increase can occur because the application of the Problem Based Learning model is used as a strategy to hone and develop students' critical thinking skills.

## **5. Conclusion**

The results of classroom action research conducted collaboratively and carried out in two cycles can be concluded that students' critical thinking skills can be improved by using the application of the Problem Based Learning learning model . The increase can be seen from cycle 1 to cycle 2, namely at intervals of 90-100 cycle 1 there are 3 students and cycle 2 there are 6 students, so there is an increase of 11.11%. At intervals of 80-89 cycle 1 there were 9 students and cycle 2 there were 15 students, so there was an increase of 22.27%.

Implementation of research in class III is the basis for conveying suggestions, namely

- 1) For researchers, to find more relevant references so that they are even better in research.
- 2) For teachers, to use the learning model in every learning activity so that students are more interested in participating in learning.

## 6. Acknowledgments

Researchers realize that the preparation of this PTKK cannot be separated from cooperation and assistance from various parties. For this reason, the researcher would like to thank:

- a . Prof. Drs. H. Pardimin, M.Pd., Ph.D., as the Chancellor of the University of Bachelors Tamansiswa who has given permission for this research.
- b . Sri Kuswandani, M.Pd., as the principal of the elementary school who has given permission and opportunity to carry out research in the SD.

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