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Improving Critical Thinking Skill Using the Probing Prompting Model in Thematic Learning of Primary School Students

Annisa Auliyah [1], Mufarizuddin [2], Fadhilaturrahmi [3], M. Syahrul Rizal [4], Rusdial Marta [5] *

[1,2,3,4,5] *(PGSD, Tuanku Tambusai Pahlawan University, Riau)*

* E-mail: [1] annisaauliyah312@gmail.com ,[2] zuddin.unimed@gmail.com, [3]fadhilaturrahmi@universitaspahlawan.ac.id , [4]Syahrul.rizal92@gmail.com, [5]dial.fredo90@gmail.com

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Abstract

This research is based on problems that exist in schools, namely the low level of critical thinking skills among students in elementary schools. This research aims to improve critical thinking skills by using the probing prompting model in thematic learning for Class V Elementary School students. This type of research is classroom action research (PTK). This research was carried out using the probing prompting model. The subjects of this research were class V students at SDN 014 Ganting Damai, totaling 29 students and was carried out from May to June 2023. Classroom action research procedures were carried out through 4 main steps, namely, planning, implementation, observation and reflection. The data collection techniques used are observation sheets, tests, documentation. The research instruments used were syllabus, lesson plans, student observation sheets, and test questions. Analysis of the data used in this research is individual learning completeness and classical completeness. Based on the results of the data that has been obtained, it is clear that all indicators of students' critical thinking abilities have increased from cycle I to cycle II using the probing prompting model. It can be seen that in cycle I the average score was 68.96% and in cycle II the average score was obtained. -an average of 88.35%, in cycle II this was categorized as critical. The amount of increase in each indicator varies. Indicators of critical thinking ability to organize thoughts and express them clearly, logically or make sense have increased very well.

Keywords: *Critical Thinking Skills, Probing Prompting Model, Thematic Learning*

Introduction

Mathematics is an important science for students to master from primary, secondary to tertiary education levels. Education is a learning process obtained by humans (students) to help humans understand, comprehend, and be able to make humans more critical in thinking. Education in general aims to create human resources who are reliable, qualified and have a competitive spirit. Such human resources are certainly very much needed in the human life environment itself (Damayanti, 2016).

Education plays an important role in improving the quality of human resources, especially in the national development process. Therefore, efforts to improve the quality of education in schools are a strategy for improving human resources.

Education as the main vehicle for human resource development plays a role in developing students into productive resources and having professional abilities in improving the quality of life of the nation and state .

The important role of education in the formation of the nation's generation is to create a young generation that is ready to face the era of globalization. The era of globalization demands that people are intelligent and always think critically in facing advances in Science and Technology (IPTEK). Therefore, the quality of education which includes knowledge and attitudes must be improved (Rosdianwinata, 2018). Science and technology are developing rapidly in the current era of globalization, with the development of science and technology, everyone can obtain information quickly and easily. Everyone is expected to be able to make good use of this convenience, especially students to support their learning process (Lestari, 2018).

Students should have the skills to obtain, manage and store information developed through the learning process, especially PKN (Citizenship Education) learning. One of the characteristics of meaningfulness in the teaching and learning process is the involvement or participation of students in the teaching and learning process who are active and think critically (Mulyadi, 2021). The ability to think critically aims to help or assist someone in making decisions and solving problems." Meanwhile, Alwasilah (2014) in (Sukmawati, 2014) stated that "the aim of critical thinking is to achieve deep understanding.

Therefore, critical thinking skills need to be developed in students because through critical thinking skills, students can more easily understand concepts, are sensitive to problems that occur so they can understand and solve problems, and are able to apply concepts in different situations. Critical thinking is a way of thinking about the problems presented or concepts given in the form of ideas (Susanto, 2014). Critical thinking is carried out in depth, filtering various information obtained and seeking the truth regarding the information obtained. Critical thinking can be said to think logically based on actual facts. Through critical thinking skills, students will be invited to analyze the truth of information obtained from various sources and make decisions (Lastriningsih, 2017).

The ability to think critically aims to help or assist someone in making decisions and solving problems." Meanwhile, Alwasilah (2014) in (Sukmawati, 2014) states that "the goal of critical thinking is to achieve deep understanding. Therefore, critical thinking skills need to be developed in students because through critical thinking skills, students can more easily understand concepts, be sensitive to problems that occur so they can understand and solve problems, and be able to apply concepts in different situations (Mulyadi, 2021).

Developing critical thinking skills can be done by using the *Probing Prompting Model* , one of the learning models that can improve critical thinking skills (Lubis, 2022). In learning, educators must use various learning models so that students do not get bored with conventional learning activities which tend to be monotonous and boring. One alternative learning model that educators can use to gain broad information and insight so that it is easier to understand by students is using the *probing prompting learning model* (Egziabher & Edwards, 2013).

Probing prompting is learning by presenting a series of questions that guide and explore students' ideas so that they can accelerate the thinking process which is able to link students' knowledge and experiences with the new knowledge being studied. The *probing prompting* learning model is closely related to questions. In this *probing prompting* lesson, educators ask students questions that explore students' knowledge and guide students to link the new knowledge they have acquired with the

knowledge they have acquired, especially in PPKN learning (Egziabher & Edwards, 2013).

Based on the results of observations made by researchers at SDN 014 Ganting Damai, there were obstacles during the teaching and learning process, including that teachers used more conventional learning models (lectures). Teachers mostly lecture during the learning process, so students become bored and don't understand the material being taught. Students also do not focus on listening to the teacher's explanations, students tend not to be able to understand concepts, are not sensitive to the problems that occur so they cannot understand and solve problems, and are unable to apply concepts in different situations.

Based on the results of an interview with one of the teachers at SDN 014 Ganting Damai, on Saturday 11 March 2023, There are several problems, including the low critical thinking skills of class V students in answering and explaining the answers to questions asked by the teacher, and when the teacher explains thematic learning material, especially PPKN lessons. The teacher gives more questions at the memory and understanding stage. Students are never given the opportunity to work on higher level questions such as analysis questions which can train students' critical thinking skills.

A teacher must be able to apply learning methods that are appropriate to the subject matter, because choosing the right learning method is an alternative in an effort to improve the quality of knowledge, so that students can easily understand what is being learned. Apart from that, problems in the learning process are the lack of students' ability to provide simple explanations and build basic skills regarding learning material, students are still not brave enough to express opinions in answering questions given by the teacher, students' lack of skills in managing strategies and tactics in the learning process.

Teachers play a very important role in efforts to improve the quality of learning, namely in terms of managing the class and guiding students during learning so that a learning atmosphere that is not boring can be created. Seeing this reality, it is necessary to improve the learning process in order to improve students' critical thinking abilities which greatly influence the value of student learning outcomes.

This can be seen from several students' scores that do not meet the minimum completeness criteria (KKM), namely 75. Related to this, teachers must look for strategies and learning methods that can improve the scores of students who have not yet reached the KKM. Based on observations made by researchers, it was found that students were unable to provide simple explanations, most students were unable to conclude, let alone provide further explanations of the material. Students only use book language so students are unable to make further explanations.

Therefore, in the learning process teachers must use various learning models, so that students do not get bored with conventional learning activities which tend to be monotonous and boring. One alternative learning model that students can use to present thematic learning, especially the PPKN subjects that will be taught, so that it is easier for students to understand, is to use the *probing prompting learning model* .

Based on the explanation above, the researcher felt it necessary to conduct research with the title "Improving Critical Thinking Skills by Using the *Probing Prompting Model* in Thematic Learning for Class V Elementary School Students".

Method

This research takes the form of classroom action research. More broadly, classroom action research can be interpreted as research that is oriented towards implementing actions with the aim of improving the quality or solving problems in a group of subjects being

researched and observing the level of success or consequences of their actions, to then provide follow-up action in the form of perfecting the action or adapting it to the conditions and situation. so that better results are obtained (Marta, 2017). Classroom action research is also research developed based on problems that arise in learning activities which aim to improve and enhance the teaching and learning process in the classroom (Fadhilaturrahmi, 2017).

This research was carried out at SD Negeri 014 Ganting Damai. This research was carried out in the even semester of the 2023/2024 academic year. This research was carried out in class V of SD Negeri 014 Ganting Damai, even semester of the 2022/2023 academic year. There are 29 students in class V of SD Negeri 014 Ganting Damai, consisting of 11 male students and 18 female students. The classroom action research model consists of 2 cycles, each cycle containing four steps, namely: planning , acting , observing , and *reflecting.*

Accurate and complete data is very necessary in a research process, so to obtain this data various data collection techniques are needed, therefore there are 3 data collection techniques used in this research, namely tests, observation and documentation. Meanwhile, the data analysis techniques used are qualitative analysis techniques and quantitative analysis techniques.

Qualitative analysis will be used to analyze the data obtained in the form of words or descriptions of students' critical thinking abilities using teacher activity observation sheets and student activity observation sheets during the learning process. Meanwhile, quantitative analysis will be used to analyze students' critical thinking ability scores. The quantitative data in this research is useful for measuring the extent to which students' critical thinking results have improved using the *probing prompting learning model.*

After data on students' critical thinking abilities is collected through observation, the data is processed using the following percentage formula:

$$\boldsymbol{p = \frac{F}{N} \times 100\%}$$

Information:

P = Percentage Number

F = Frequency to be searched for

N = Many Individuals

100% = Fixed Number

In determining the assessment criteria for research results, 4 assessment criteria are grouped, namely very critical, critical, moderately critical and less critical. The criteria are as follows.

Table 1. Critical Thinking Ability Criteria

Category	Score
90-100	Very critical
80-89	Critical
70-79	Enough critical
<69	Not enough critical

Source: Wowo (in Citra, 2017)

This research was conducted to determine the level of students' critical thinking abilities at the end of each meeting. Data on students' critical thinking abilities is processed using the following formula:

$$\boldsymbol{KI = \frac{Jumlah\ Skor\ yang\ Diperoleh}{Skor\ Maksimal} \times 100\%}$$

To determine classical learning completeness, the following formula can be used:

$$\boldsymbol{KK = \frac{Jumlah\ Siswa\ yang\ Tuntas}{Jumlah\ Siswa\ Seluruhnya} \times 100\%}$$

A student is said to be complete in learning if the student obtains a score from the Minimum Ability Criteria (KKM), namely 70. Meanwhile, knowing classical completeness is said to be achieved if more than 80% of all students understand the learning material that has been studied, (Muliawanti et al., 2015) . If the average value of students' critical thinking abilities increases in each cycle, then the use of the

probing prompting learning model is said to be able to improve students' critical thinking abilities.

Results and Discussion

The results and discussion in this research can be seen from the comparison of students' critical thinking abilities before taking action, cycle I, and cycle II in learning using the *probing prompting learning model* . Students' low critical thinking abilities can be seen from the predetermined critical thinking ability indicators that have not been achieved. The initial data on students' critical thinking abilities in class V SDN 014 Ganting Damai can be seen in the table below.

Table 2. Results of Students' Critical Thinking Ability Test in Pre-Action

Indicator	Percentage Think Critical	Student Think critical
Provide an explanation simple	37.93%	11 student
Build Skills base	31.03%	9 student
Conclude	27.58%	8 student
Arrange strategy tactics	25.13%	7 student
Average	30.41%	
Category	Less Critical	

Source: 2023 Research Data Processing Results

Based on the data in the table above, it can be concluded that the ability to think critically students are in the less critical category. Based on the data described above, students' critical thinking abilities have not reached the category determined by the researcher, namely achieving a minimum score of 70 and have not reached the target determined by the researcher, namely 80% classically. So the researchers made learning improvements through implementing *the probing prompting* learning model to improve the critical thinking skills of class V students at SDN 014 Ganting Damai.

The results of students' critical thinking abilities in cycle I can be seen as follows:

Table 3. Results of Cycle I Students' Critical Thinking Ability Test

Achieved indicators	Percentage Ability Think critical	
	PI	PII
Provide an explanationsimple	78.54%	82.04%
Build Skills base	62.14%	77.67%
Conclude	50.46%	70.19%
Arrange strategy tactics	46.13%	78.7%
Average	60.34%	77.58%
Category	Less Critical	Quite Critical

Source: 2023 Research Data Processing Results

Based on these data, the researcher concluded that the implementation of learning in cycle I had improved compared to pre-action. However, it has not yet reached the target set by researchers, namely 80% classically. For this reason, researchers and observers carry out actions in the next cycle, namely cycle II.

The results of students' critical thinking abilities in cycle II can be seen as follows:

Table 4. Results of Cycle II Students' Critical Thinking Ability Test

Achieved indicators	Percentage Ability Think critical	
	PI	PII
Provide an explanationsimple	89.65%	96.55%
Build Skills base	82.75%	93.10%
Conclude	82.75%	93.10%
Arrange strategy tactics	79.31%	89.65%
Average	83.61%	93.1%
Category	Critical	Very Critical

Source: Results of Research Data Processing 202

The data in the table above can explain that all indicators of students' critical thinking abilities have increased from cycle I to cycle II. This can be seen at the second meeting of cycle II, namely with an average score of 93.1%, this is categorized as very critical. The amount of increase in each indicator varies. Indicators of critical thinking ability to organize thoughts and express them clearly, logically or make sense have increased very well. To clearly understand the increase in students' critical thinking skills in cycle II, it can be seen in Figure 1 below.

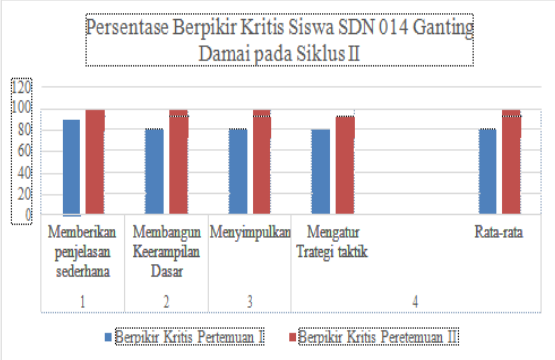

Figure 1. Percentage Diagram of Critical Thinking Ability Achievement of Cycle II Students

Based on the research results, it was seen that students' critical thinking skills improved in the first cycle of the first and second meetings. At the end of the lesson, students were able to provide conclusions from the lessons carried out. At the end of the second meeting of cycle I, students were given a test to measure students' critical thinking abilities. Students work on these questions individually on the LKPD for approximately 15 minutes and after that the answers and questions are submitted to the teacher.

probing prompting model which was still low in cycle I, meeting II, namely at the stage of providing feedback or students were still unable to respond to the questions given to ensure that the answer was correct or not, and students were also unable to respond to any feedback given. by the teacher.

Students' critical thinking skills are obtained by giving test questions to students at the end of cycle I, meetings one and two. In the cycle I critical thinking ability test , the indicators used are the same as in the pre-action, but with different material and a different model. In cycle I, the material used is about unity and oneness. Based on the data in the table above, most of the critical thinking ability achievements in cycle I were in the Quite Critical category.

For students' achievement of critical thinking skills at meeting I, with an average of 60.34%, this was categorized as less critical and for students' critical thinking skills at meeting II, with an average of 77.58%, it was categorized as quite critical. Students' achievement of critical thinking skills has begun to increase.

Based on these data, it is clear that all indicators of students' critical thinking abilities have increased from pre-action which had an average value of 30.41% to the first cycle of the first meeting with an average value of 60.34%, and the second meeting with a value of 77.58%. . The amount of increase in each indicator varies. Indicators of critical thinking ability to organize thoughts and express them clearly, logically or make sense have increased quite well. There are several indicators of critical thinking ability that have met the success criteria, but there are also some that have not met the success criteria and need improvement.

In cycle II, at the first and second meetings, the teacher uses the RPP as a guide for implementing learning. LKPD and textbooks are also used as supporting learning resources. At the end of the lesson, students can/are capable of summarizing the material studied. At the end of the second meeting of cycle II, students were given a test to measure students' critical thinking abilities. Students work on the questions individually for approximately 15 minutes and after that the answers and questions are submitted to the teacher. Analysis of student activities in learning

using the *probing prompting model* in cycle II of the first meeting has improved. In general, all indicators of critical thinking ability have increased in cycle II from cycle I.

Based on the data, most of the critical thinking ability achievements in cycle II were already in the very critical category at the second meeting of cycle II. For students' achievement of critical thinking skills at meeting I, with an average of 83.61%, this was categorized as critical and for students' critical thinking skills at meeting II, with an average of 93.1%, it was categorized as Very Critical.

Students' achievement of critical thinking skills has increased. This data can explain that all indicators of students' critical thinking abilities have increased from cycle I to cycle II. It can be seen at the second meeting of cycle II, namely with an average score of 93.1%, this is categorized as very critical... The magnitude of the increase in each each indicator is different. Indicators of critical thinking ability to organize thoughts and express them clearly, logically or make sense have increased very well.

Cycle II was carried out according to what was planned, namely a lesson using the probing prompting model which was categorized as very high/very good. Based on observations in cycle II, it has been proven that the application of the probing prompting model can improve students' critical thinking abilities. The application of *the probing prompting* model can improve students' critical thinking skills with an average of 93.1% in cycle II of the second meeting of 29 students who had fulfilled the KKM or classical completeness.

The indicators in probing prompting are in accordance with what is desired and each cycle experiences an increase in the critical thinking skills of class V students at SDN 014 Ganting Damai. This shows that this research has met the success criteria, namely the number of students who fulfill classical completion with a score of 90%. Based on these results, the researcher, class teacher and observer agreed to stop research in cycle II and not continue to the next cycle.

Conclusion

The implementation of using *probing prompting* was as desired and each cycle experienced an increase in the critical thinking skills of class V students at SDN 014 Ganting Damai. Based on the results of the data that has been obtained, it is clear that all indicators of students' critical thinking abilities have increased from cycle I to cycle II using the *probing prompting model*. It can be seen that in cycle I the average score was 68.96% and in cycle II the average score was obtained. -an average of 88.35%, in cycle II this was categorized as critical. The amount of increase in each indicator varies. Indicators of critical thinking ability to organize thoughts and express them clearly, logically or make sense have increased very well. Thus, it can be concluded that the application of *the probing prompting learning model* can improve elementary school students' critical thinking abilities.

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