

Research Article

Increasing Students' Critical Thinking Ability in the Theme of Beautiful Togetherness through Scientific Approach in Grade IV Elementary School Students

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Abstract: This study aims to determine the improvement of students' critical thinking skills in the theme of the beauty of togetherness through a scientific approach in the fourth grade of Kedoya Selatan Elementary School 04 in West Jakarta. The cycle action design in this study uses the Kemmis and McTaggart models, using a spiral system that starts from planning, acting (observing), observing, and reflecting. This research was conducted on the fourth grade students of the Kedoya Selatan elementary school 04 Pagi, West Jakarta, totaling 29 students. This type of instrument is used to collect research data in the form of problem solving questions, observations, observational field notes. The results showed an increase in the percentage of the average critical thinking ability of grade IV students on the content of social science lessons, namely 67.30% in the first cycle and 81.80% in the second cycle. In addition, the teacher's actions in the first cycle showed 53.13% and in the second cycle the percentage of teacher actions increased to 87.50%. The actions of students in the first cycle showed a percentage of 48.53% and increased to 88.24% in the second cycle. Then it can be concluded that the scientific approach can improve students' critical thinking skills in the theme of the beauty of togetherness in class IV Kedoya Selatan 04 Pagi West Jakarta elementary school.

Keywords: Scientific approach, critical thinking, social science.

INTRODUCTION

Education is a language that is very often heard in everyday life, because education is a part that is considered important for survival in the future. In fact, it is not uncommon for the term that education is an investment in the future. The higher the education that lives, the higher the chance for happiness in the future.

Learning as a learning process, which is an interaction carried out to convey a material or information from a source of information (teacher) to the recipient of information (students). The teacher has a very strategic position and determines in learning and teaching activities. It is said to be strategic because the teacher determines the depth and breadth of the subject matter and is decisive, so the teacher sorts and selects the subject matter to be presented to students. One strategy is to create a learning plan. Through this strategy, an effective, efficient, interesting learning process and high quality learning outcomes will be achieved by each teacher (Dean, 2015).

Teachers have so far been relied upon to be the only source of knowledge that can be accepted by their students and tend to still use very conventional learning strategies that convey material verbally, monotonously, and tend to be teacher centered. Furthermore, the process of learning activities by giving practice questions as a benchmark for the extent to which students can receive the delivery of information that has been delivered by the teacher. This actually only makes students feel bored in learning, because indirectly students are only invited to record or memorize what has been said by the teacher. The impact that will be felt by students is that students will feel bored in learning, because what the teacher instills is listening to what is conveyed by the teacher and then memorized, so that there is no challenge in learning (Spada, & Dos Santos, 2015).

Social Science Education (SSEC) and the National Council for Social Studies (NCSS) (Solihatin, 2007) state that social science education is a science that teaches how humans as individuals to interact with the

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environment in order to support survival together. Social studies learning is the basis of the science of education because it is with social science that every individual is taught how to communicate properly and correctly (Susanto, 2014). Learning social studies subjects discuss the prevailing norms in society, whose written form is written so that social studies learning tends to be identical to textbook learning and this causes difficulties for teachers in delivering material. For example, first, the delivery of material is only read from the teacher to students. Second, the lack of activity of students in learning, making students less happy to memorize what the teacher had said and read. Third, students who think that the content of social studies is boring and has become a separate scourge for students.

In general, each student can construct his own knowledge based on the experience he has experienced. However, in order for the construction to be more meaningful, it is necessary to apply a learning that is expected to be able to condition students in such a way and it is better for teachers to train their students to think critically by analyzing and solving problems. So that students can look more active in the learning process, foster curiosity in learning, and train students' skills in critical thinking so students are able to solve the problems they are facing.

For Dewey in Fisher (2011) argues that critical thinking skills are essentially an 'active' process, a process where you think of things more deeply for yourself, ask questions for yourself, find information that is relevant to yourself, and others. Critical thinking is a way of thinking about any matter, substance, or problem, by improving the quality of his thinking and handling skillfully the structures inherent in thinking and applying intellectual standards to him. With this critical thinking ability, students are invited to look active, especially in problems with learning material. Students are only just provoked by material or basic problems, while the matter of developing and finding a way out of the basic problems proposed by the teacher is a task for students.

Thinking is a mental activity to help solve problems, make decisions, or fulfill curiosity. Thinking ability consists of two, namely basic thinking skills and high-level thinking skills. Basic thinking ability (lower order thinking) only uses limited ability to routine things and is mechanical, for example memorizing and repeating information previously given (Farmer & Wilkinson, 2018). While, the ability to think high (higher order thinking) makes students to interpret, analyze or even be able to manipulate information beforehand so it is not monotonous. The ability to think highly (higher order thinking) is used when someone receives new information and saves it for later use or rearrangement for the purpose of solving problems based on the situation (Rachmadtullah, 2015).

Critical thinking in the 2013 curriculum is an assessment of aspects of skills, starting from how students identify existing problems, to find out ways to solve the problem. Therefore, the learning process really needs to be designed in such a way, especially in the 2013 curriculum, it is highly recommended to use scientific learning in solving learning problems. As it is known that the scientific approach is a scientific framework in learning that has been carried out by the 2013 curriculum.

Scientific approach is a learning approach that emphasizes the activities of students through observing, asking, reasoning, trying, and networking in learning activities in schools and can present / communicate related to the material presented in learning activities (Abidin, 2014). The scientific approach is believed to be the development and development of students' attitudes, skills and knowledge. Therefore, learning is carried out in the hope that it can make students more challenged in learning, can hone their skills in critical thinking, and appreciate the differences that are around them. So that students do not get bored with ongoing learning, can be honed their thoughts, as well as a good attitude between friends to teachers. The learning objectives with the scientific approach are based on the superiority of the scientific approach. Among them are 1) to improve students' intellectual abilities, especially their abilities in high-level thinking students; 2) to train students' abilities in solving problems they are facing systematically; 3) the creation of student awareness that learning is a need that must be fulfilled; 4) to train students in communicating ideas, 5) to develop the character that students have (Daryanto, 2014).

Based on the background described above, researchers see a problem that needs to be corrected in the world of education, especially in dealing with the 2013 curriculum that requires students and teachers to collaborate well during the learning process, the lack of interesting activities presented by teachers in student learning processes, and the lack of student activity in mastering classroom learning. Supporting the student learning process so that as expected from the 2013 curriculum objectives, it is necessary to have an approach that attracts students 'interest in learning so that it can improve students' critical thinking skills in dealing with and solving existing problems. Therefore, the researcher raised a Classroom Action Research entitled, "Improving Students' Critical Thinking Ability in the Theme of Beautiful Togetherness through a Scientific Approach in Class IV of the elementary school of Kedoya Selatan 04 Pagi, West Jakarta".

METHOD

The research method used in this study is action research. The cycle action design in this study uses the Kemmis and McTaggart models, using a spiral system that starts from planning (planning), actions (acting), observing (observing), reflecting (reflecting), and

resuming to replanning. (Aqib, 2009). This research was conducted on the fourth grade students of the Kedoya Selatan elementary school 04 Pagi, West Jakarta, totaling 29 students. This type of instrument is used to collect research data in the form of problem solving questions, observations, observational field notes.

RESULTS

Learning Outcomes of Critical Thinking Ability

The research data obtained by the researchers came from 29 fourth grade students at the Kedoya Selatan 04 Pagi West Jakarta elementary school. The researcher gets data on the results of students' critical thinking abilities on the content of social studies at the end of each cycle. After running 2 cycles with 4 meetings, the researchers got satisfactory research data. Where researchers get an increase in the percentage of

the average critical thinking ability of class IV students on the content of social science lessons, namely 67.30% in the first cycle and 81.80% in the second cycle.

This difference of 14.1% is the reference that the research that researchers have done has increased the results of learning social science of fourth grade students at the elementary school of Kedoya Selatan 04 Pagi, West Jakarta. After researchers and observers discuss to see the results of the research data that has been obtained, researchers and observers end the cycle II action.

The data from the results of research on the learning outcomes of social science in fourth grade students at Kedoya Selatan 04 Pagi can be seen in the following table:

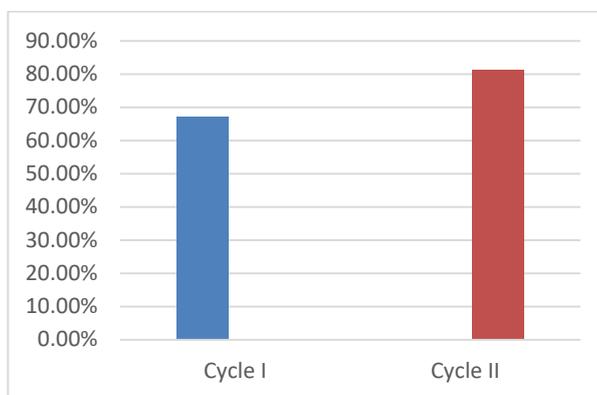


Fig.-1. Average Value of Critical Thinking Ability of Class IV Students in the Contents of Social Sciences

Learning that uses a scientific approach can improve student learning outcomes. This starts at the beginning of the learning stage, students are not only invited to understand the material in the book and listen to the material translation by the teacher, but students are also asked to gather and shape their knowledge based on what they have learned, seen and felt so that the problems presented teachers can be solved by the results of students' critical thinking. Questions and problems that the teacher presents are related to daily life, and at the end of the cycle students are trained to discuss with their group friends, and then develop thoughts between knowledge and understanding from one student to another student.

Based on the results of the data in cycle 1 and cycle 2 prove that scientific learning can provide influence and can improve student learning outcomes such as research conducted by Jatmiko, Diani, and Alfadhilah (2016) that, the ability to think critically during the learning process that is applied to experimental class that is by using a scientific approach (x3) is more influential on student learning outcomes compared to students who do not use the scientific approach. Then Chriswanti (2016) with the results of

the study showed that the results of learning critical thinking skills of students were obtained an average of 71% and had an increase based on the calculation of the n-gain score which was 0.6 with the criteria of being. Piyanto also added that the results of his research showed that there was an increase in students' critical thinking skills by 14.29%, from 67.86% in the first cycle to 82.14% in the second cycle, teacher activity also increased by 11.88%, namely from 72.50% in the first cycle to 84.38% in the second cycle. While student activity increased by 13.75% from 71.88% in the first cycle to 85.63% in the second cycle.

The results of research by several experts above provide reinforcement of the results of research data obtained by researchers that the scientific approach has an influence on students' critical thinking skills.

Results of Teacher and Student Actions

As long as the researcher takes action, the observer monitors the course of the research using an action monitoring sheet. This action monitoring data serves to monitor the actions of teachers and students during the learning process by using a scientific approach.

In the first cycle the percentage of the teacher's action monitoring sheet showed 53.13% and in the second cycle the percentage of teacher actions increased to 87.50%. The students' actions are also objects monitored by observers. In the first cycle the students'

actions showed a percentage of 48.53% and increased to 88.24% in cycle II. The following is a recapitulation of the teacher and student action monitoring sheets during the learning process using a scientific approach that is loaded in table form:

Table-1. Results of Monitoring Teacher Actions and Student Actions

cycle	Value obtained		Persentase	
	Teacher's Actions	Student Actions	Teacher's Actions	Student Actions
I	9	9	56,25%	52,94%
II	15	16	93,75%	94,12%

Critical thinking skills include skills to determine the credibility of a source, distinguish between relevant and irrelevant ones, distinguish facts from assessment, identify and evaluate unspoken assumptions, identify existing biases, identify points of view, evaluate evidence offered. Furthermore, Tyler in Redhana (2003: 13-14) argues that experience or learning that provides opportunities for students to acquire skills in problem solving can stimulate students' critical thinking skills. Exchange of ideas that are active in small groups not only attract students' attention but can also promote critical thinking. Collaboration can provide opportunities for students to engage in discussions, be responsible for learning so that they become critical thinkers (Amin & Adiansyah, 2018).

Critical thinking is not the same as accumulating information. A person with good memory and many facts does not mean a critical thinker. A critical thinker is able to deduce from what he knows, and knows how to use information to solve problems, and find sources of relevant information for him. Critical thinking is not the same as argumentative attitude or criticizing others. Critical thinking is neutral, objective, unbiased. Even though critical thinking can be used to show mistakes or bad reasons, critical thinking can play an important role in working together to find the right reasons and do constructive tasks. Critical thinkers are able to do introspection about the possibility of bias in the reasons stated (Paul & Elder, 2005).

From some of these opinions it can be concluded that critical thinking is the ability to examine or analyze a source, identify relevant and irrelevant sources, identify and evaluate assumptions, apply various strategies to make decisions that are in accordance with the assessment standards (Limón, 2001).

CONCLUSION

Based on the results of the class action research recorded in the field notes, the evaluation results regarding the improvement of critical thinking of class IV students through the scientific approach to the content of social studies were the theme of the beauty of togetherness in the elementary school of Kedoya Selatan 04 Pagi West Jakarta. Demonstrate that

students' critical thinking skills experience an increase in each cycle, by applying a scientific approach to the learning process.

During the process of applying the scientific approach, students are directed to develop the ability to solve problems and develop critical thinking skills related to the material submitted. Problems that become learning material relate to what happens in the daily lives of students, so that student learning is more meaningful because the material is related to apply in the daily lives of students. Solving the given problem is done scientifically.

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