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Fostering Secondary School Students' Critical Thinking Skills through Social Studies Learning by Group Investigation Model

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Abstract: This disruption era needs every student mastering critical thinking skills as the basis to maintain the competence. The central point that can be done to grow these skills is through education. This study aims to test the improvement of students' critical thinking skills through social sciences learning by Group Investigation model in VIII class containing 20 students. This study uses the Kemmis and McTaggart model of Classroom Action Research. The research instrument was in the form of observation sheets and tests which were analyzed using a comparative descriptive approach. The results of the study indicate that social studies learning by Group Investigation model can improve students' critical thinking skills, with the following implications; (1) The condition of critical thinking skills of pre-cycle students by 40% are in the less condition, and 35% are in the sufficient category; (2) In the first cycle, the students' critical thinking skills below the minimum standard have been reduced to 25%; (3) Then, only 15% of students have critical thinking skills below the minimum standard. This study recommends to another researcher try to find out another learning methods and models to improve students' critical thinking skills.

Keywords: *group investigation; critical thinking skills; social studies learning*

INTRODUCTION

Today's globalization directs all aspects of life to become more modern and sophisticated, providing its own challenges to the world of education so that it has a more role in ensuring survival (Malihah, 2015). The most needed skills during this globalization era is critical thinking which is as essential skills to improve human beings quality (Bustami et al., 2018). The importance of world harmony during this globalization condition can be done by strengthening critical thinking skills (Hong et al., 2020).

The fact that education plays an important role in the process of improving the quality of human resources should be directed to create a good learning atmosphere. This good condition can actively develop students potential to have spiritual strength, religion, self-control, personality, intelligence, morals, and noble mind, as well as the skills they need, society, nation and state (Hidayat & Abin, 2012). It can't be denied that education should stir pupils' curiosity, creativity and imagination; broaden their horizons; deepen their way of thinking, enrich their outlook and scope of knowledge (Barno, 2021).

To meet the demands of 21st century education, the Indonesian nation must

prepare competent and skilled human resources. Some of the skills needed include analytical skills (critical thinking), interpersonal skills (communication, collaboration and responsibility), creative and innovative skills, and literacy skills (Muhali, 2018). One of the main skills that must be possessed to face the current disruptive era is critical thinking. Critical thinking is a form of high-level thinking that involves all thinking processes, namely obtaining information, understanding, analyzing, correlating, interpreting, evaluating, making judgments, and making judgments about good and bad or right and wrong (Safrida et al., 2018).

Several researchers agree that critical thinking is one of important in education. Actually critical thinking development must be inherent in education as societies need citizens who facilitate their progress (Uribe-Enciso et al., 2017). In global context, student's critical thinking competence in secondary level plays a major role in preparing students to think critically in future condition (van der Zanden et al., 2020). The professional person in every single profession practices require critical thinking because profession is a holistic process that requires both science and art in the application of knowledge to treat the objectives (Srisawad & Chaleoykitti, 2019). In universal condition, critical thinking skills have become one of the key pillars of a new, knowledge-based economy (Changwong et al., 2018).

Several studies show that school learning activities commonly have not yet improved students critical thinking skills optimally (Anazifa & Djukri, 2017). Then, the social studies subject has not been seriously increasing students critical thinking. Many students could not think critical because their teacher can't develop critical thinking during daily learning process (Choy, 2012). Thus problems comes from the less usable of learning method or model that oriented to develop critical thinking skills (Muhlisin et al., 2016). And the social studies teacher commonly implement classic learning approach such as teacher centred that limit students critical thinking skills ability (Lennon, 2017).

There are some previous studies that support a positive relationship between social studies and critical thinking, such as the research that found significant relationship between critical thinking and critical thinking dispositions of the Social Studies subject (Kayaalp et al., 2020). Then, there is bound interaction between investigation, equity, and student cohesiveness aspects of social studies learning environment and students' critical thinking disposition (Meral & Tas, 2017). And another studies found that learning methods can influence students critical thinking skills on social studies learning outcomes (Qomar et al., 2019).

Many definitions of critical thinking were proposed by experts such as students are at least have argument to show good ideas, recognize their own biases and those of others, and how to think like a scientist (Schmaltz et al., 2017). Commonly, critical thinking is not only drive students think elastic and active enough, but also teaching students how to investigate and examine new information (AlJaafil & Sahin, 2019). Critical thinking related to several competencies, such as understanding, judgment, caution/scepticism, originality, and reflection/action that can develop through interactive learning process (Hermond & Tanner, 2020).

In line with the importance to mastery critical thinking skills today, the Group Investigation type cooperative learning model can be an alternative in cultivating these skills. Given this type of learning directs students to find concepts and theories through a scientific process in the form of observing, grouping, interpreting, researching, and then communicating (Akly et al., 2015). On other detailed side, this type of learning emphasizes students to think in groups critically, creatively, and analytically (Aini et al.,

2018). So this type of learning is in accordance with critical thinking skills indicator that are equally based science thought. This is supported by the finding that this type of learning has a positive impact in achieving a specific skill mastery goal (ŞİMŞEK, 2012). Another research shows that Group Investigation model could influences the learning outcomes or learning objectives (Amin, 2019).

In fact, social studies learning as an interdisciplinary science is composed of various social science disciplines that require critical analysis skills in studying phenomena that occur in society (Nurochim & Ngaisah, 2020). So, it cannot be denied that social studies learning requires students to have critical thinking skills to be more sensitive in studying social phenomena. Type learning Group Investigation as one of cooperative learning model is considered to have a fairly central role to foster critical thinking skills of students in IPS.

Several scholars have proven that Group Investigation is scientific learning approach that can solve the learning problems. The combination of cooperative learning model of GI with scientific approach in the mathematics learning is improving the achievement of learners especially in the material of quadrilateral (Indarti et al., 2018). Another result show that GI learning models with brainstorming techniques to improve students learning outcomes, especially in the cognitive domain (Astiti, 2018). Then, the studies show that GI model in learning with Phet make students scientific work skills doing better (ARINDA et al., 2019). And the studies identify that the effect of Predict-Observe-Explain (POE) learning strategy by GI model strengthen students learning achievement and critical thinking skills (Arsy et al., 2019). However, based on preliminary studies shows that only several studies observed the GI learning models to increase critical thinking skills.

On the other hands, the real condition show that the student's critical thinking skills still low. This condition can be seen from the low activity of students in asking questions to the teacher or responding to questions from the teacher. These results are in line with the study which states that the ability to formulate questions is one of the main indicators of critical thinking skills (Azizah et al., 2018). Thus, the phenomenon of the low critical thinking skills of students in social studies learning becomes a separate problem which is considered important to provide solutions through the implementation of cooperative learning type Group Investigation.

METHODS

This paper used class room action research with a comparative descriptive approach by Kemmis and McTaggart model which includes four paths (steps): namely: 1) Planning, 2) Implementation, 3) Observation, 4) Reflection (Kemmis & Mc. Taggart, 1988). Every cycle stage through several steps, such as; problem identification, planning, action and observation and cycle reflection for the next cycle improvement plan to produce conclusions. This classroom action research was conducted to determine the improvement of students' critical thinking skills. The data were obtained from both Class VIII A Nurul Hidayah students totaling 20 students and social studies teacher as primary sources based on test results and observations during implementation. The research instruments that used in this research are observation and test results were prepared based on an indicator variable were tested against the validity of the content and reliability of the instrument. The analysis data technique in this classroom action research used descriptive qualitative from starting cycle to the conclusion by assessing the students' learning outcomes that are carried out by matching the critical thinking indicators in

every cycle. The critical thinking indicators according to Thomas A. Angelo such as; Interpreting problems, analysing solution of the problem, applying gained solution, evaluating the gained solution, and concluding the results attached with supportive evidence (Angelo, 2009).

RESULTS AND DISCUSSION

Results

Observers early became an important thing that must be done to determine the initial conditions and problems the learning process IPS. This can be seen when the teacher appoints students to answer questions, only a few students are able to ask questions. Students seem to pay less attention to the teacher's explanation. Learning activities are dominated by teachers so that students look passive in learning. Lack of student attention to subject matter in the learning process makes the level of students' critical thinking skills still lacking. The results of these observations were strengthened by the findings of the initial data on students' critical thinking skills which were included in the low category. Initial data of students' complete critical thinking skills can be seen in the following table;

Table 1. Comparison of Students' critical thinking skills

No.	Category	Value Range	Pre-Cycle		Cycle I		Cycle II	
			f	%	f	%	f	%
1.	Very Good (VG)	3,51 – 4,00	3	15	8	40	10	50
2.	Good (G)	2,51 – 3,50	2	10	7	35	7	35
3.	Enough (E)	1,51 – 2,50	7	35	5	25	3	15
4.	Less (L)	1,00 – 1,50	8	40	0	-	0	-

The data above is the result of the accumulated critical thinking skills of students in the pre-cycle cycle I and cycle II. The distribution of data from the pre-cycle results shows that the critical thinking skills of students in social studies subjects are still dominated by the Less (L) category of 40% of students, enough (E) with a total of 35% of students, then in the category and Good (G) which is equal to 10%. In addition, only 15% of students are in the Very Good (VG) category. Students who meet the completeness or get values above 2,50 only 25%. As many as 75% of students are still in a condition that does not meet the minimum standards. So, it can be concluded that the average critical thinking skills of students are still quite low.

Based on this, it is necessary to improve the quality of learning that can improve students' critical thinking skills. Through Group Investigation (GI) learning, the learning system will be more effective because this learning does not only refer to the teacher, but rather refers to students. Students are also trained to think scientifically so that they dare to present their findings in front of the class. As state from previous studies that the purpose of the learning process is depend on the teacher teaching styles (Rizaq & Sarmini, 2021).

So, if this learning is carried out it will be very effective because the teacher is not only motivated to teach the material listed in the textbook, but can also develop material according to the critical thinking of students and teach students how to communicate in

the classroom. The application of the Group Investigation (GI) learning model is expected to improve students' critical thinking skills in social studies learning.

Description of Cycle I

The success of implementing the action in Cycle I can be seen from the increase in students' critical thinking skills which looked better than students' critical thinking skills before the action (Table 1). This can be seen from the students' critical thinking skills at the first meeting, especially in the indicators of students' ability to find clear statements from each question, students try to find out information well, students behave and think openly, and students behave systematically and regularly with parts of the whole problem.

The results of the assessment at the end of the first cycle showed that the students' critical thinking skills had improved compared to the pre-action. This can be seen from the number of students who obtained the critical thinking skills score category B (good) increased to 35%. In addition, the SB category (Very Good) reached 40%. However, in category C there are still 25% of students. Students who complete the new completeness reach 75%. Based on the value of critical thinking skills obtained from the observation sheet and the test results, it can be seen that students' critical thinking skills are still below the expected success criteria.

However, student's critical thinking skills actually could improve by maintain the good learning method or style. Those good application can be used to overcome the purposes learning. It has proven by the good implementation of combination learning method improve the students' critical thinking skills (Wulandari et al., 2017). Those research result can the reflection suggestion for this first cycle. Even the data shown that there is students' critical skills improvement, it does not satisfy the teacher. Because he thinks that the implementation of GI model still unperfected. For that there needs to be a corrective action in cycle II.

Those unperfected condition emerge because of the teacher didn't explain the GI learning model to students before the cycle started. Students didn't understand the GI model steps in learning process. Those condition made students confused to follow the learning steps and become passive. Those unsuccessful condition become the guidance for second cycle to give the explanation first before GI learning model implemented.

Description of Cycle II

Data in table 1 shows that students' critical thinking skills have increased. Some students obtained critical thinking skills scores in category B (Good), namely as many as 7 students or 35% of the total students. Meanwhile, as many as 10 students or 50% of students obtained critical thinking skills scores in the SB category (Very Good). Only 3 students or 15% of students have a critical thinking skill score category C (Enough). In other words, as many as 85% of students have obtained critical thinking skills scores completely, which are in the category B (Good) and SB (Very Good). Based on this, it can be concluded that students' critical thinking skills are in accordance with the expected success criteria.

Improving Students' critical thinking skills through Social Studies Learning Type Group Investigation

Based on the results of research conducted during Cycle I and Cycle II, it can be seen that there is a significant increase in critical thinking skills according to the comparison in the following graph;

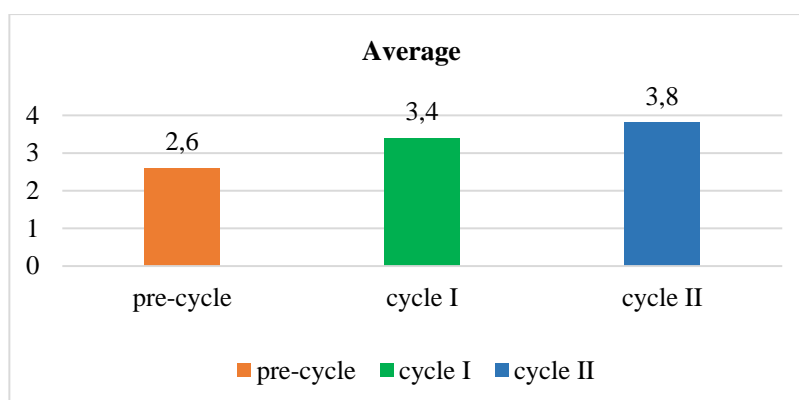


Figure 1. Average Value Increase in pre-cycle cycle I and cycle II

Based on this figure, it can be seen in the initial conditions that the student average score was 2.6; increased in Cycle I to 3.4 in the Good category (G); and increased again in Cycle II to 3.8 in the very good category. The completeness values in cycle I and cycle II can be seen in the figure below:

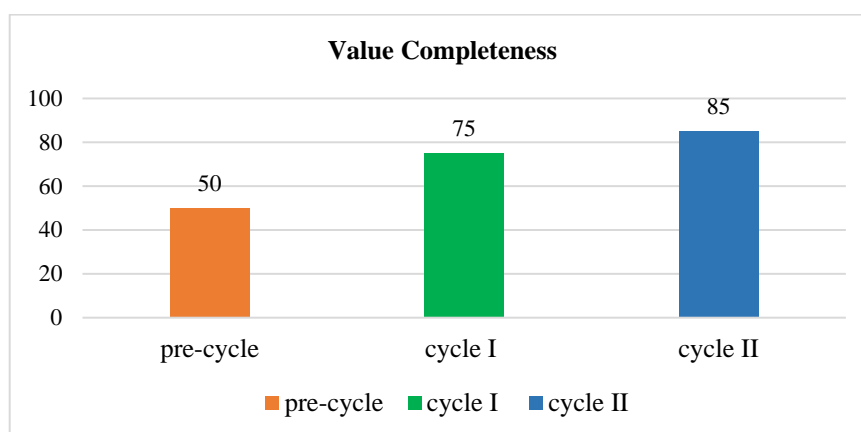


Figure 2. Percentage of Critical Thinking Value Completeness

In the initial condition, only 50% of students obtained completeness scores, Group Investigation learning can improve critical thinking skills in social studies learning for eighth grade students of SMP IC Nurul Hidayah. Evidenced by the increase in the completeness value in cycle 1 by 75%, then in the second cycle to 85%.

Discussion

Before taking this classroom action research, the observation during students learning process of Class VIII A Nurul Hidayah shows several problems occurred, such as; (1) students are less active in learning because teacher didn't use method or model, (2) many students can't give the argument when the teacher ask, and (3) during the learning process the teacher does not involve students to find the concepts. This common problem because of the learning still teacher centered. It is very different with the concept of students center as the main paradigm to develop critical thinking skills (Belecina & Jose

M Ocampo, 2018).

The implementation of the Group Investigation learning method can improve critical thinking skills in social studies learning for eighth grade students of SMP IC Nurul Hidayah. This can be seen from an increase in the number of students who obtain critical thinking skills scores to meet completeness. Critical thinking skills in this study refer to indicators of critical thinking skills according to Ennis (Saputra, 2020), which include students' ability to find clear statements from each question, students' ability to look for reasons, students try to find out information well, students use credible sources, and mention it, students pay attention to situations and conditions as a whole, students try to stay relevant to the main idea, students remember genuine and fundamental interests, students look for alternatives, students behave and think openly, students take positions when there is sufficient evidence to do something, students seek explanations as much as possible whenever possible, and students behave systematically and regularly with the parts of the whole problem.

The student's confusion in the beginning of this learning model implementation because teacher did not give clear instruction. Teacher suddenly implement the GI learning model without give the explanation about the syntax during learning process. Those lack problem evaluate by the teacher to plan better GI implementation in cycle II. As the stated that classroom action research to understand and develop teaching practices and develop teacher professionalism in learning to direct quality learning process (Laudonia et al., 2017). Those first cycle reflection is in line to develop quality learning process.

At the reflection stage, there is a contemplation of the suitability between the plan to strengthen critical thinking skills and its implementation. The implementation of learning has been going according to plan, but the teacher enthusiasm is not great and has negative impact on perseverance, sincerity, and timeliness in managing classroom conditions. In addition, the lack of teacher enthusiasm in implementing the GI learning model has an impact on the lack to direct students' critical thinking skills.

The results of cycle I were followed up by good students' preparation for the second cycle. Before cycle II started, teacher simulated the GI learning model first before entering the classroom and asking for input from peers to maximize learning quality. Teachers' skills in implementing GI should be more mature so that they can direct students to improve critical thinking skills.

The Group Investigation learning method can improve students' ability to find clear statements from each question. This can be seen from the participation of students in the group. This is because deep dialogue is a conversation that aims to bring out ideas, information, or experiences, so that students participate in group activities (Salamah, 2018). The ideas, information, or experiences expressed by students in their groups make students try to find clear statements from each question.

Group Investigation learning methods can improve students' ability to find reasons. This can be seen from the influence of other active interactions that make students want to answer questions given by other groups or provide responses to other groups. This is because the roles of each individual in the group influence each other in analyzing, making judgments, and making decisions appropriately and correctly in response to questions given by the teacher or by other groups. In accordance with the fact that the knowledge and cognitive development of an individual comes from socio-cultural sources that are around him (El Rizaq & Sarmini, 2020).

Group Investigation learning methods can improve students' ability to find

information well. This can be seen from the activities of students using books and other sources in conducting discussions. This is because in the Group Investigation learning activity stage, students are given assignments to discuss with their groups (Wahyuni, 2016), so that to work on these questions students use books or other suitable reference sources.

The Group Investigation learning method can improve students' ability to use credible sources and mention them. This can be seen from the answers to the test questions regarding the understanding of needs and understanding of the means of satisfying needs. This means that visible behavior cannot be measured and observed without involving mental processes such as intention, belief, motivation and so on (Nurhadi, 2020). The increased ability of students to use sources that have credibility and mention them is because to define the definition of needs and tools to satisfy needs, students must use reference sources and mention them.

Group Investigation learning methods can improve students' ability to pay attention to situations and conditions as a whole. This can be seen from the activities of students paying attention to teachers and other students who are asking questions or answering questions. This is because the steps in the Group Investigation learning method provide opportunities for students to ask and answer questions, so students must pay attention when teachers or students are asking and answering questions so that students are able to understand the material being taught. Various explanation analysis shows that the implementation of Group Investigation learning methods can enhance the critical thinking skills of student's class VIII SMP IC Nurul Hidayah Social Learning.

CONCLUSION

The condition of pre-cycle students' critical thinking skills was 40% in a poor condition, and 35% were in the sufficient category. In the first cycle the critical thinking skills of students with sufficient conditions have decreased to 25%. Then in cycle II the condition of students having critical thinking skills in the category was reduced again to 15%. Percentage of students who received grades mastery of critical thinking skills pa da initial conditions only as much as 25% of students. Group Investigation learning can improve critical thinking skills in social studies learning for eighth grade students of SMP IC Nurul Hidayah. Evidenced by the increase in the completeness value in cycle 1 by 75%, then in the second cycle it became 85%, which is greater than 60% from the initial condition before being given the Group Investigation type treatment. This finding suggests that learning model of Group Investigation in Social Science learning can enhance the critical thinking skills of students.

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