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Application of Group Investigation (GI) Learning Model in Pendidikan IPS SD Course, To Improve Students' Critical Thinking Skills At Pgsd Universitas Negeri Makassar

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Abstract: *This research purpose is to identify the process and results of the implementation of group investigation learning model in improve of critical thinking ability of PGSD FIP UNM students in elementary school. Obtaining of the research subj ect based on the average score of mid test were almost same. This research is the experiment research, design by using pre-test post-test control group design. The dependent variable in this research is thinking critically and independent vaiable is Group Investigation model (GI). The descriptive result and hypothesis test was known that there is different result of student's thinking critically between the experiment class and the control class significantly, that was shown by the result. As conclusion that the using of Group Investigation model (GI) has given positive effect to the ability of student's thinking critically. Based on that fact, Group Investigation model (GI) is too important to applied, so that the teacher should be use this model as alternative teaching model to practice the ability of student's thinking critically.*

Key words: *model group investigation, critical thinking.*

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I. Introduction

Efforts to improve the quality of education by improving the learning process. New concepts and insights about teaching and learning process have emerged and evolved with the rapid development of science and technology. Teaching and learning process from elementary school to college level. In college, the role of lecturer as educator has a strategic position in the framework of human resource development, is expected to keep abreast of new concepts related to his profession as an educator (Suryosubroto, 2009).

Likewise, in the scope of lectures in PGSD which includes a variety of object studies based on the existing subjects in elementary schools such as Mathematics, Science, Social Studies, Civics, Bahasa Indonesia, Religion, SBDP and PJOK. The IPS course in PGSD is one that can provide a broad insight into the concept of IPS lessons in elementary schools which emphasize the human being as the main study object as well as local and global communities so as to live together.

Education Unit Level Curriculum (KTSP) Year 2010 describes the learning objectives of social studies in elementary school so that students have the ability to: (1) Know the concept related to community life; (2) Having basic skills for logical and critical thinking, curiosity, inquiry, solving problems and skills in social life; (3) Commitment and awareness of social values and humanity; (4) Have the ability to communicate, cooperate and compete in a pluralistic society at the local, national and global levels.

Based on these objectives, if further study the instructional objectives of IPS SD learning not only emphasize the cognitive (knowledge) aspects, but also the affective (attitude) and psychomotor (behavioral) aspects. Therefore, lecturers should not only highlight one aspect of course in lecturing activities, but hope the three aspects can be harmonious and balanced. Development of cognitive aspects, not enough if only using the lecture method alone because it does not encourage creativity and reasoning power of students. As a result, students understand IPS learning as learning that tends to memorize the material.

Meanwhile, in developing good affective aspects in the educational process, not only in academic results but also in moral formation. Affective includes the emotions or feelings that each student has, which also needs attention in the course.

Then, in developing the psychomotor aspect, it is expected that lecturers can apply or apply the existing sciences to help solve problems in daily life. Therefore, in its application it is necessary to continuous habituation of the teacher so that good behavior will become a personality that has been deeply rooted in the individual. If these three aspects are developed in a balanced way, then the purpose of IPS education can be realized properly.

Learning-oriented mastery of the material has not been able to produce students who are active, creative, and innovative. Students succeed in short-term recall, but fail to equip students solving problems in the

long run. From the phenomenon that occurs in children at the elementary level of education, it becomes a challenge for prospective elementary school teachers to be able to improve the thinking ability of elementary school children is still low, which is still at the concrete operational stage (Santrock, 2007). If teachers are less innovative and creative in providing learning then the child will not succeed in learning and critical thinking skills are also less developed. Primary school children still tend to think on the basis of concrete experience/ real.

One of the thinking skills included in high-order thinking is the ability to think critically. The ability to think critically can be developed through a learning process that focuses on strict systems, structures, concepts, principles, and links between other learning elements. The essence of IPS learning is as a structured and systematic science, as a human activity through an active, dynamic, and generative process, and as a science that develops critical thinking, and objectively becomes very important to be mastered by students in facing the rate of change of science and technology so rapidly.

Critical thinking according to Ennis (in Fisher, 2009) is a sensible and reflective thinking that focuses on deciding what to believe or do. The ability to think critically will provide a more precise direction in thinking, working, and helping more accurately in determining the interrelationship of something with others. Therefore, the ability to think critically is necessary in solving problems or finding solutions. The development of critical thinking skills is the integration of various components of capability development, such as observation (observation), analysis, reasoning, judgment, decision making, and persuasion. The better the development of these capabilities, the better will be in solving problems.

Critical thinking indicators can be explained through behavioral aspects expressed in the definition of critical thinking. Based on the definition of critical thinking there are some activities or behaviors that indicate that these behaviors are activities in critical thinking. Angelo (1995) identifies four systematic behaviors in critical thinking: skills to analyze, synthesize, recognize and solve problems, and conclude. The formulation of the problems studied in this study are:

"How is the implementation of group investigation learning model improve of critical thinking ability of PGSD FIP UNM students in IPS lecture?

Based on the above problem formulation, the purpose of this study are:

Identify the process and results of the implementation of group investigation learning model in improving of critical thinking ability of PGSD FIP UNM students in IPS Lecture.

II. Literature Reviews

The Group Investigation learning model (GI) is categorized as one of the cooperative learning models. Cooperative learning is a learning strategy that involves the participation of students in a small group to interact with each other. The Group Investigation (GI) learning model by Wena (2009) is categorized as one of the cooperative learning models. From that point of view, the Group Investigation learning model (GI) has characteristics as a cooperative learning system. Group Investigation (GI) learning is a type of cooperative learning that consists of several members within a group that are responsible for the mastery of the subject matter and able to work on that part with other members of the group. According to Sharan (2014), model group investigation (GI) is a model that emphasizes group heterogeneity and cooperation. This model is one of the complex methods in group learning that require students to use high-level thinking skills.

a. The purpose of Model Group Investigation (GI)

The Group Investigation Model (GI) is student-oriented which aims to prepare students as information experts who are able to communicate their knowledge to friends to other group members. In addition, the Group Investigation (GI) model aims to foster the spirit and spirit of teamwork in groups to create active, effective, creative and fun learning.

b. Stages of Group Investigation (GI) Model

According to Slavin (1995), there are six stages in applying the Group Investigation (GI) model: (1) grouping stage, (2), planning stage, (3) investigation stage, (4) organizing stage, (5) presenting stage, (6) evaluating stage.

c. Advantages and Disadvantages Model Group Investigation (GI)

The advantages of model group investigation (GI) according to Sharan (2014), are:

(1) Teachers and students may participate in working groups by preparing small group investigative principles; (2) Interaction in small groups requires knowledge as the basis of group work and discussion skills as group dynamics that develop student exercises and activities; (3) Bringing encouragement for students to develop ideas, focus attention to tasks and contrast or discuss ideas using different perspectives; (4) Social interaction is used by students to cultivate and build new knowledge gained by the group during the course of the investigation; (5) Group investigations allow students to interact with fellow researchers covering different

aspects of the same common theme interpreted through cooperative information; (6) Group investigation motivates students to take an active role in determining what is learned and how to learn it; (7) Group investigation raises personal interest in searching for the necessary information at the time of investigation based on shared responsibility and interaction between group members.

The weakness of group investigation (GI) model According to Santoso (in Yuniasih, 2013) is a learning model that has different difficulty level with other cooperative model. The degree of difficulty of this model lies in organizing group investigations. In addition, students will be confused at the time of presentation because students are less willing to express opinions in front of a classmate. Furthermore, according to Misyanti (in Yuniasih, 2013) Group Investigation model (GI) is a complex learning model and difficult to apply in cooperative learning, and using group investigation also takes a long time.

Based on that opinion, it can be concluded that the Group Investigation (GI) model has several advantages and disadvantages. The advantages of the Group Investigation (GI) model lie in processes and learning outcomes such as student-centered learning and improved student achievement. But it also has some weaknesses that lie in the learning process such as, complex and difficult learning model, the time of presentation takes a long time because students are less willing to express opinions in front of a classmate.

d. Benefits of Group Investigation (GI) model

The Group Investigation learning model (GI) as part of the cooperative learning system certainly has the benefits both personally and collectively, including: 1) each member has a role, 2) there is a direct interaction between students, 3) each group member is responsible for learning as well as friends of his group, 4) the teacher helps develop group interpersonal skills, 5) the teacher only interacts with the group when needed (Carin, 1993).

e. Critical Thinking Ability

Thinking process involves various elements, namely: healthy brain, senses, previous information, and facts. Thinking is a series of the four elements above. Thinking is the transfer of sensing to fact through the senses into the brain accompanied by previous information that will be used to interpret the facts. The existence of such thought processes is essential to acquire knowledge. Nickerson et al (1985: 48), states that thinking is very important to acquire knowledge, while knowledge is essential for thought processes. Costa (in Hidayati, 2014)) states that, thinking is receiving external stimuli through the senses and processed internally. In addition Ozkahraman & Yildirim (2011) argued that:

"Critical thinking is "the process of searching, obtaining, evaluating, analyzing, synthesizing and conceptualizing information as a guide for developing one's thinking with self-awareness, and the ability to use this information by adding creativity and taking risks."

The statement explains that critical thinking is the process of searching, obtaining, evaluating, analyzing, synthesizing and conceptualizing information as a guide for developing a person's thinking with self-awareness, and the ability to use this information by adding creativity and taking risks. In addition, Glaser (in Kowiyah, 2012) defines that:

"*Critical thinking as: (1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experience; (2) knowledge of the methods of logical enquiry and reasoning; and (3) some skill in applying those methods. Critical thinking calls for a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends.*"

The definition of the above statement explains that critical thinking as: (1) an attitude of deep thinking about the problems and things within the reach of one's experience; (2) knowledge of logical methods of examination and reasoning; and (3) a kind of skill to apply those methods. Critical thinking demands a vigorous effort to examine any assumptions or assumptive knowledge based on its supporting evidence and the subsequent conclusions it brings about

The purpose of critical thinking is to evaluate the best acts or beliefs. The focus of the critical thinking framework is the thought process that involves gathering information and applying criteria to consider a different set of actions or views. According to Ennis (in Hidayati, 2014) "critical thinking is a way of analyzing skills based on reflective considerations that are reasonable or based on logical reasoning that determines something to be believed and done." It makes sense to think based on facts to make the best decisions. Reflective means seeking consciously and decisively the best possible solution.

Critical thinking can manifest through critical behavior. Critical behavior is a human activity through an active, dynamic, and generative process. Critical thinking is very important to be mastered by students in the face of a rapid rate of science and technology change. According to Beyer (in Hidayati, 2014) Critical thinking is an ability that includes: determining the credibility of a source, distinguishing between relevant from irrelevant, distinguishing fact from assessment, identifying and evaluating unspoken assumptions, identifying existing bias, identifying point of view, as well as evaluating the evidence offered to support the recognition.

Critical thinking requires a reflective attitude. Reflective attitude in critical thinking means action is done quickly and precisely. Reflective attitude can be done if the students have understood the problems encountered and solutions to be delivered. Critical thinking according to Mertes (in Rustaman, 2013) is "a conscious and deliberate process used to interpret and evaluate information and experiences with a number of reflective attitudes and abilities that guide beliefs and actions".

The critical thinking indicator can be based on the student's critical activity. Critical thinking activities can be seen from the student's ability to solve problems well. These indicators are used in the assessment of critical thinking skills. According to Ennis (in Hassaubah, 2004), there are 12 critical thinking indicators summarized in 5 groups of thinking skills, namely providing elementary clarification, building basic skills, inference, making further clarification, as well as strategies and tactics (strategy and tactics). Then the 12 indicators are spelled out in several sub indicators.

IPS Education Course at SD

The IPS Education course in Elementary School is one of the core subjects taught in primary school. As the essence of social studies in elementary school is to provide basic knowledge and skills as a training medium for students as citizens as early as possible. Next Susanto (2013), about the nature of social studies in elementary schools are:

The essence of IPS in elementary schools provides basic knowledge and skills for training media for students as citizens as early as possible because IPS education not only provides knowledge only, but should be oriented towards developing critical thinking skills, attitudes, and basic skills of students who are grounded in reality social life everyday and meet the needs for social life of students in the community.

IPS education as a field of study given at the level in the school environment, not only provide knowledge alone, but also provide the provision of values and attitudes and skills in the life of students in the community. IPS is an educational program or field of study that studies human life in society and relates to society and its environment. IPS Education courses are given at higher education level in elementary school teacher education, not only provide knowledge only, but also provide the provision of values and attitudes and skills in student life in society, nation, and country in various characteristic.

According to Akbar (in Sadipun, 2014) the purpose of IPS in SD/MI is that students have the following skills: 1) Know the concepts related to the life of the community and its environment; 2) Have basic skills for logical and critical thinking, curiosity, inquiry, problem solving, and skills in social life; 3) Commitment and awareness of social values of humanity; 4) Have the ability to communicate, cooperate and competence in a plural society, at the local, national, and global.

III. Methodology

After considering the background of the problem and the theoretical study obtained a solution that is expected to make the process of learning in the classroom can improve students' critical thinking skills required an interesting and appropriate model for the material taught easily understood by the students, especially the subjects of Social Studies in Elementary School. Selection of Group Investigation (GI) model is based on problems that students often experience. At the time of the researcher conducted interview and observation of lecture activity directly lecturer only use lecture method and question and answer in delivery of material. Students are less excited and look saturated in following the lecture. Lectures look not dynamic yet. Still low attention and positive activities of students. students just listen to the explanation of lecturers only, even those who seem busy with their activities.

This research is a type of experimental research that is True Experiment Design. This research is called True Experiment Design. The subjects were divided into two groups: experiments and controls. The experimental group was treated using Group Investigation (GI) model, while the control group was treated using non Group Investigation (GI) (lecture and question and answer). The subjects used in this research are IPS education courses in elementary school.

Research design in this research is pre-test post-test control group design. The process of selecting experimental group and control group is done by combining all the students of BC 41 and BC 42 class which is 60 students. To create a group, the female and male students are separated and then instructed to take the number. The number provided is 1 and 2 because the group will be divided into 2 class experiment and control. After that, the students were instructed to group with other students who got the same number. The experimental

and control group determination was done randomly, then given pre-test to know the student's early ability, then the two classes were drawn to be experimental group and control group. It is to prove that the learning model used is really suitable (affecting the ability of critical thinking). The research design, can be seen in the table below.

Kelompok	*Pre-test*	Perlakuan	*Post-test*
Eksperimen	O_1	X	O_2
Kontrol	O_3		O_4

Information:

X: Treatment. (The experimental group treated with the model Group Investigation (GI) model).
O1 & O3: Both groups were observed with a pre-test to determine early critical thinking skills.
O2: Student's critical thinking ability after following learning using Group Investigation (GI) model.
O4: Critical thinking skills of uneducated students using Group Investigation (GI) model.

Data Collection Techniques and Research Instruments

Data collection techniques used in this study is a test of Student critical thinking skills. The test is carried out twice, pre-test and post-test. The pre-test was conducted with the aim of knowing the students' early critical thinking skills in the experimental class and control class. This test is carried out before the experimental and control classes receive lecture materials and treatment of the Group Investigation learning model (GI).

Post-test in the experimental class and control class aims to determine the increase or decrease in students' critical thinking skills after being given Group Investigation model treatment (GI) by comparing with the pre-test results. Furthermore, the use of the instrument of observation guidance is two observation sheets of the implementation of Group Investigation learning model (GI) and observation sheet of critical thinking ability. The GI model implementation observation sheet is based on the stages of the RPS and observed by 1 person. The critical thinking observation sheet consists of 5 indicators with 2 observers.

The instrument of observation is first validated by the instructional expert. After the improvement based on the suggestion from the validator, the researcher then perform a second validation. Validation of the second, the validator has approved the improved observation sheet. Validation results show that the observation sheet is very good with a score of 5.

This research is a type of experimental research that is quasi experiment (quasi experiment). This study is called quasi because the treatment given to the research subjects is not fully controlled. The experimental group was treated using Group Investigation (GI) model, while the control group received non Group Investigation model treatment with the material in the IPS education lecture at SD.

Data collection techniques used in this study is a test of students' critical thinking skills. The test is carried out twice, pretest and posttest. Pretest is implemented with the aim of knowing students' early critical thinking skills in the experimental class and control class. The tests were conducted before the experimental and control classes received the subject matter and treatment of the Group Investigation (GI) learning model. Posttest in the experimental class and control class aims to determine the increase or decrease in students' critical thinking skills after being given the Group Investigation model (GI) treatment by comparing with the pretest results. The research instrument of critical thinking ability in this research use question problem is five question.

IV. Results And Discussion

To know the influence of Group Investigation (GI) learning model on improving students' critical thinking ability, it can compare mean value of critical thinking ability gained. The value obtained from the observation of critical thinking ability during the learning activities of each meeting in the experimental group experienced a significant increase while the control group also increased but not significant.

The research findings show that learning by Group Investigation (GI) model influences students' critical thinking ability. The effect is thought to be caused by: first, the experimental class student is more active than the control class. This activity is shown from the ability of students in the experimental class to express their opinions. Daring to express an opinion is one of the characteristics of critical thinking skills, this is in Chance's opinion (in Hidayati, 2014). Who argues that critical thinking is the ability to analyze facts, give ideas, defend opinions, make comparisons, draw conclusions, evaluate arguments, and solve problems.

Implementation of Group Investigation (GI) model in IPS educational education in elementary school in this research makes students more active

The second cause, caused by the ability of students to determine the topic of the problem. The topic of the problem was obtained by the students from the help of the pictures given by the lecturer.

The third reason is the discussion held in the experimental class. Discussion activities in the experimental class using Group Investigation study train students to speak and speak their opinions. Discussion activities in the experimental class may involve each student communicating and arguing and being accountable to all the things he or she has said because of the relevant evidence.

V. Conclusion

Based on the formulation of the problem and the result of the research, it can be concluded that the implementation of Group Investigation (GI) model consisting of grouping, planning, investigation, organizing, presenting, and evaluating stage are generally performed fairly well. The critical thinking ability of the students in the IPS education lecture in elementary school before the implementation of the group investigation model is generally in the non-critical category, both in the experimental group and in the control group. There was an increase of students' critical thinking skills to a critical level in the experimental group after being given group investigation model treatment while the control group increased to less critical. Implementation of Group Investigation (GI) model influences the critical thinking ability of students of Prodi PGSD Universitas Negeri Makassar.

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