The Application Of Guided Inquiry Model Helpful Macromedia Flash In Increasing Understanding In Natural Science Learning For Fifth Grader Of Primary School

By Yuliati Yuyu

The Application Of Guided Inquiry Model Helpful Macromedia Flash In Increasing Understanding In Natural Science Learning For Fifth Grader Of Primary School

Yuyu Yuliati, Dudu Suhandi Saputra, Reza Rachmadtullah,   Rasmitadila, Vina Iasha

Abstract: This research is based on the background of the low understanding of students in learning natural sciences. This study aims to improve the understanding of students in fifth grade Sindang Kasih State Elementary School 1 by using a guided inuiry model with macromedia flash. The research method used by the researcher was classroom action research in collaboration with fifth grade teachers at Sindang Kasih Elementary School 1, with a total of 30 students. This study took place in 3 cycles, each cycle consisting of 3 actions. The techniques used in collecting data are observation, tests, interviews, documentation, and field notes. The results of the study showed that the application of the guided incuri model could improve the understanding of students in natural science learning in the fifth grade of Sindang Kasih Elementary School 1.

Key words: Model Guided Inquiry, Macromedia Flash, Understanding, Natural Science

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1. INTRODUCTION

He 21st century is marked by the rapid development of science and technology in the field of life in society which is certainly a challenge in both the educational environment and the world of work today. There are four competencies that must be possessed by students in the 21st century, namely conceptual understanding, critical thinking, creative thinking, and collaboration and communication [1]. The various competencies of these students can only be achieved through the education process. Megacu on the complexity of the competencies that must be possessed by students, education should be able to produce human resources that have intact abilities both soft skills and hard skills in facing various challenges in life. So that the education process should be more oriented towards the learning paradigm that has a vision so that the learning process will direct students to be able to learn thinking oriented to logical and rational knowledge, learn to do things oriented to solving problems, learn to be independent oriented to character formation, and learn to live together who are oriented to be tolerant and ready to cooperate. Science is one of the sciences that must be mastered by students in facing various challenges in the global era. Science is scientific knowledge obtained from the results of investigations regarding phenomena that occur in nature. Science is a system for understanding the universe through controlled observation and experimentation [2]. Science not only teaches students about the facts, theories, or functions of nature for humans, but also teaches how the previous experts got the concept of nature, and how we adopt

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- *Yuyu Yuliati. Universitas Majalengka. Majalengka. Indonesia*
- *Dudu Suhandi Saputra. Universitas Majalengka. Majalengka. Indonesia*
- *Reza Rachmadtullah. Universitas PGRI Adi Buana. Surabaya. Indonesia*
- *Rasmitadila. Universitas Djuanda. Bogor. Indonesia*
- *Vina Iasha. Universitas Negeri Jakarta*

the scientific attitude of scientists in getting a theory. This is related to Natural of Science, namely science as a product, science as a process, science as an attitude, and application. In relation to competency thinking, 21st century education is directed at forming graduates who have problem solving skills, metacognitive thinking skills, and the ability to think creatively. Work competencies include communicating, collaborating and cooperating cooperatively. Life competencies include the ownership of a strong soul of citizenship, have mature religious character, and ownership of a qualified social character. Competence in mastering work tools includes the ability to master information and master information and communication technology. The goal of 21st century education can be achieved through a learning process that engages students actively and builds knowledge through hands-on experience. One of the subjects that must be mastered by elementary school students is Natural Sciences. It can be understood that, Natural Sciences is a theoretical science based on observations, experiments on natural phenomena [3]. Science subjects are very important subjects in everyday life because students can learn about the environment and things that happen in real life.. Science learning is adapted to the development of science and technology that can solve problems faced in everyday life. Science learning is directed to inquiry and action so that it can help students gain more experience and deeper understanding of the natural environment [3]. Further said that, understanding is a level of ability that requires students to understand or understand about the subject matter delivered by the teacher and can relate it to other things [4]. Based on these opinions, it can be concluded that understanding is a very important level of ability that students must have in the learning process. In other words understanding does not only require students to know about the material, but requires students to explain and understand the material delivered and connect it with other things, so that learning becomes more meaningful and useful for students in their daily lives. But in reality students' understanding of science learning in Elementary School has not been as expected. According to the Data Program for International Student Assessment (PISA) in 2015 Indonesia was ranked

69th out of 76 countries [6]. Students in Indonesia still have difficulty answering questions, because students' ability to understand the subject matter and solve a problem is still low. Here are some studies that show that the teacher's ability is still weak in implementing learning processes and activities that are in accordance with the nature of science. Science learning is still characterized by the transfer of science as a product (facts, laws, and theories) that must be memorized so that aspects of science are truly neglected processes and attitudes [6]. In his research Suroso concluded that learning is not associated with real life contexts, learning rarely starts from actual problems, learning science in elementary schools tends to depart from subject matter rather than from the main objectives of science learning and student needs [7]. The findings are in line with the results of the preliminary study and observations carried out by the researcher during the science learning in class V, Sindangkasih I Elementary School, Majalengka District, Majalengka Regency. This situation had a very large impact on science subjects in Sindangkasih I Elementary School, especially in students in grade V who still had low understanding. The low level of student understanding also influences the learning outcomes obtained. Based on the analysis of daily test results of class V students with 30 students in science learning in the 2017/2018 school year, only 27% or as many as 8 people who can achieve the Minimum completeness criterion with minimum completeness criteria set at 68, 73% or 22 people have not reached the Minimum Completion Criteria set by the school. Based on the results of the preliminary study, it can be concluded that the students' low understanding of science learning at Sindangkasih I Elementary School, because in the learning process in the classroom students are only directed to listen to the information conveyed by the teacher without relevant learning media. Students are only required to remember material not to develop thinking skills. Various empirical findings that have been described previously are indications that science learning that has been carried out so far tends to be a conventional activity that has an impact on students' low understanding. This condition requires improvement in science learning to realize more effective learning. Based on the above explanation of learning alternatives that can be done to solve the problem of students' low scientific literacy skills is to apply science learning that emphasizes the development of attitudes, ideas and science process skills that emphasize scientific inquiry activities, with such learning it will increase enthusiasm, students' interest in and admiration for science. In line with the previous explanation the 2013 curriculum emphasized that science learning should be carried out in scientific inquiry to foster the ability to think, work and be scientific and communicate it as a form of implementation in life. At the elementary / MI level, science learning is expected to be able to emphasize interrelated learning in an integrated manner. In line with that, the science learning process should be conditioned to develop the ability to think, solve problems and emphasize giving direct experience through scientific inquiry activities in order to help students gain a deeper understanding of the surrounding environment. One learning model that is relevant to this explanation is the guided inquiry model. Inquiry is an approach to learning where to learn and how to find ways to increase your understanding of a problem, topic, or issue. [8] Based on this understanding, it can be explained that guided inquiry learning is a learning model that requires students to

find out their own ideas and information which aims to achieve understanding independently in solving various problems. In this model, the teacher acts as a partner of students who guide, guide and facilitate students' experiences in achieving learning goals. In practice, the inquiry learning model requires students to carry out a series of activities starting from determining problems, formulating hypotheses, observing, experimenting, processing and analyzing data, testing hypotheses, and making conclusions. The success of the guided inquiry model in improving scientific literacy is illustrated by the results of the Puspitasari study, namely there are significant differences in the increase in scientific literacy in students who take guided inquiry-based learning with students who take traditional learning in science lessons. This is indicated by the average N-gain experimental class of 0.68 better than the average N-gain of the control class which is only 0.36 [4]. Based on the research it is clear that the guided inquiry model can improve students' scientific literacy, but the results of the research data show that the increase obtained is only in the criteria of being. Thus the researcher considers the need to conduct research on increasing scientific literacy of students through guided inquiry models in science learning.

METHOD

This study uses classroom action research methods by having observing activity elements, actions that aim to correct problems in the learning process, and the same class receives lessons from a teacher [11]. Data collection is done through: observation, interviews, documentation, and student learning outcomes as many as 30 people. The data analysis technique was carried out through data reduction, tabulation of data from observations, data analysis and data exposure. The success criteria in this study is if the value of students' science learning outcomes reaches a minimum of 76.19% or 16 people from the minimum completeness criteria. This research was conducted through four phases of cycles including: planning, implementing actions, observing and reflecting. The class action research model used was John Elliot's model

RESULT AND DSICUSSION

This study uses a classroom action research approach where the research will discuss the results of each cycle given action. The following diagram shows the results of this study:
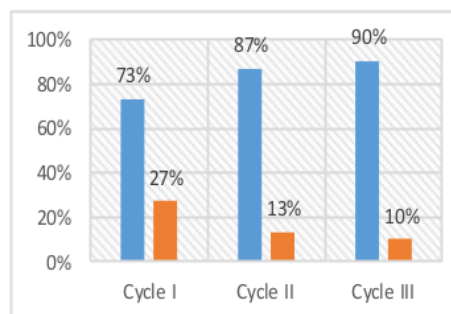

Figure 1. Percentage value for each cycle

The results of this study indicate that there is an increase in each cycle. In the first cycle students who complete as much as 73% and the unfinished as much as 27% with an average grade reached 66,94. Cycle II experienced improvement, students who completed it became 87% and those who had

not completed 13% with the average grade reached 73.61. While the third cycle of students who complete as much as 90% and the unfinished 10% with the average grade reaches 76.39. It is known that the gided inquiry model assisted by Macromedai Flash has several stages of the guided inquiry learning model including the following: Stage of problem identification and observation. Stage asking questions. Stage of planning an investigation. The stage of collecting data / information and carrying out investigations. The stage of analyzing data. Stage to make a conclusion. The stage of communicating the results [1].

CONCLUSION

Based on the results of the research described, it can be concluded that the guided inquiry model based on macromedia flash can improve students' understanding of natural science learning in the fifth grade of elementary school. Increasing the value of learning outcomes is influenced by the activities of students and teachers in the learning process in the classroom. The guided inquiry learning model based on macromedia flash has a positive impact on the enthusiasm of students to learn natural science because formulating learning techniques is very fun so students do not feel bored while studying the material.

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