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ANALYSIS OF THE EFFECTIVENESS OF GUIDED INQUIRY BASED LEARNING ON CREATIVE ABILITY OF ELEMENTARY SCHOOL STUDENTS

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ABSTRACT

This study aims to describe the effectiveness of guided inquiry learning on the creative thinking abilities of elementary school students. This study uses a qualitative descriptive research method by analyzing four creative thinking skills training practices in guided inquiry-based science learning that have been carried out by previous researchers. The object of research in this study is articles or journals related to guided inquiry-based learning to improve creative thinking skills in elementary science learning. Data collection techniques in this study used library research. Data analysis techniques in this study used content analysis techniques. The results obtained from this study are that research (Detagory et al., 2017) and (Mufiannoor et al., 2017) are more effective in training students' creative thinking in guided inquiry-based science learning, by training all aspects of creative thinking which are then aligned with the stages guided inquiry. Meanwhile, in the other two studies it has drawbacks because aspects of creative thinking are not trained as a whole and there are aspects of creative thinking that are not aligned with the stages of guided inquiry.

Keywords: Science Learning, Guided Inquiry, Creative Thinking Ability Elementary School Students

1. INTRODUCTION

Education has an important role in facing world competition. In "Esensial 21st Century Skills" requires humans to learn more quickly and precisely according to current technology. (Rini, 2022) explained that students who live in the 21st century must master the 4C abilities (Critical Thinking, Communication, Collaboration, Creativity). Ability demands "Esensial 21st Century Skills" is an ability that must be possessed by current students as a provision to become qualified individuals to face world competition. Through the 2013 curriculum the government accommodates students with student - centered learning to meet demands in the 21st century, one of the demands of the 21st century is creativity. In accordance with Permendikbud Number 21 of 2016 article 3 it is hoped that the 2013 curriculum will be able to develop the potential of students to become creative individuals and be able to compete globally by having the ability to create new ideas obtained from creative thinking (Kebudayaan, 2019).

Creativity is the ability to create new ideas as an alternative solution to a problem (Mardhiyana & Sejati, 2016). suggests that the characteristics of someone who has a creative spirit are having a high imagination, a great sense of curiosity, being happy to ask lots of questions, having original ideas and having no difficulty solving problems. (Sulastri et al., 2022) four aspects of creative thinking namely *fluency*, *flexibility*, *originality*, and *elaboration*.

Students' creative thinking can be developed through science learning by involving students directly through scientific activities to seek their knowledge. Science learning is something that students must follow, they can learn with a little guidance to develop creative thinking (Kiay, 2018). In accordance with (Romayanti et al., 2020) Explaining creative thinking includes a scientific process, namely formulating problems, making hypotheses, conducting experiments, analyzing, and making conclusions.

Uno (2023) states that a person's natural abilities are acquired due to biological factors; however, individuals who are born with high or low creative abilities must be honed through training so that they can develop optimally. To encourage creative thinking skills, it is necessary to involve students' knowledge and attitudes. Practicing creative thinking is also necessary to pay attention to the development of students' thinking so that learning can take place optimally in accordance with the objectives. Piaget (Agustyaningrum et al., 2022) argues that there is a shift in students' thinking processes from thinking concretely at elementary school age. Based on exposure, thinking creatively inside elementary science learning can be trained through guided inquiry-based learning.

In reality, in the field, teachers still use the conference method so that learning is only one direction, namely from the teacher, so that students are not active in learning and many students are indifferent to learning science, so that student scores are not complete from the KKM that has been set, therefore the author tries to research and apply Inquiry-Based Learning in science lessons.

2. LITERATURE REVIEW

Learning through guided inquiry can help someone develop creative thinking and find solutions to a problem (Putra et al., 2016). One of the student-centered learning models is guided inquiry learning, in which students are given a problem by the teacher and directed in a discussion to solve it (Dewi et al., 2020).

Underlying problem practice in developing creative thinking through guided inquiry is that not all aspects of creative thinking are trained on students. Based on research (Rosyidah et al., 2022), aspects of creative thinking that are trained through guided inquiry include fluency, flexibility, originality, and elaboration. Research (Hasin et al., 2020) has identified aspects of creative thinking that are trained through guided inquiry includes fluency, flexibility, and originality. Therefore, this study aims to describe the

effectiveness of guided inquiry on creative thinking skills in elementary school science learning.

3. METHODS

The type of research used in this study is qualitative descriptive research. This study uses a literature study research approach, namely through reading and then analyzing literature in the form of articles or journals related to guided inquiry-based learning to improve creative thinking skills in elementary school science This research uses a data collection technique in the form of a literature study, which is a study that is used to collect information and data in the library in the form of documents, books, magazines, historical stories, and so on (Khaesarani & Khairani Hasibuan, 2021). Data collection by means of a literature study in this study was done by collecting information or data based on articles or journals related to guided inquiry-based science learning to improve creative thinking skills in elementary schools.

The data obtained were then analyzed using the technique of analysis or content analysis. Content analysis begins with data reduction techniques (data collection from various information media is then summarized and sorted according to the research focus), data presentation (data obtained is presented in narrative form), and conclusions (drawing conclusions based on the data that has been obtained).effectiveness of thinking creatively in elementary science learning through guided inquiry in terms of aspects of students' creative thinking. Aspects of creative thinking that will be analyzed are fluency (kelancaran), flexibility (kelenturan), originality (kebaruan), and elaboration (memerinci).

The research objects used in this study were articles or journals related to guided inquiry-based learning to improve creative thinking skills in elementary science learning. The articles or journals analyzed in this study were:

a. The Effect of the Environment-Based Guided Inquiry Learning Model on Creative Thinking Skills and Mastery of Science Concepts for Class V SD Cluster VIII, Abang District (Handayani, 2019).
b. Application of the Guided Inquiry Learning Model to Train MI Students' Creative Thinking in Science Learning Materials *Global Warming* (Anggraini et al., 2018).
c. The Role of the Guided Inquiry Learning Model in Students' Creative Thinking Ability in Elementary Science Learning (Detagory et al., 2017).
d. Practicing Creative Thinking Ability and Understanding of Concepts with Guided Inquiry-Based Learning on the Interaction of Living Things with the Environment (Mufiannoor et al., 2017).

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4. RESULTS & DISCUSSION

4.1 Results

Tabel 1. Creative Thinking Ability in Guided Inquiry-Based Science Learning

No	Research Topics	Aspect Think Creative	Student Activities in Guided Inquiry-Based Science Learning
1.	The Effect of the Environment-Based Guided Inquiry Learning Model on Creative Thinking Skills and Mastery of Science Concepts Class V SD Cluster VIII Abang District (Handayani, 2019)	*Konvergen*, *Divergen*.	1. Find your own answers to the problems you face through experiments and recordings from environmental sources 2. Experience in building the knowledge that has been owned. 3. Looking for as much information as possible through experiments. 4. Advertising advertisements for students to learn to discover new things.
2.	Application of the Guided Inquiry Learning Model to Train MI Students' Creative Thinking in Science Learningmaterial *Global Warming* (Anggraini et al., 2018).	Fact, Logical, Valid, Identify, Relevant	1. Students are required to solve problems and answer problem solutions. 2. Finding universal answers to problems. 3. Look for various evidence to support the hypothesis and get real data. 4. Analyze problems with data support and develop analytical skills. 5. Summing up.
3.	The Role of the Guided Inquiry Learning Model in Students' Creative Thinking Ability in Elementary Science Learning (Detagory et al., 2017).	*Fluency, Flexibility, Originality, Elaboration*	1. Demonstrate prior knowledge related to phenomena in everyday life. 2. Formulate questions that will be tested through investigations. 3. Design an investigation to collect data. 4. Conduct investigations, collect data and record investigative data. 5. Interpret and make meaning of the data and make initial conclusions based on the data.

		6. Making meaning of new knowledge obtained and connecting new knowledge and initial knowledge possessed. 7. Communicating the results of the investigation in class and discussing
4.	Practicing Creative Thinking Ability and Understanding of Concepts with Guided Inquiry-Based Learning on the Interaction of Living Things with the Environment (Mufiannoor et al., 2017).	*Fluency, Flexibility, Originality, Elaboration* 1. Encouraging students to actively seek as much information as possible through observation and investigation. 2. Students are active in learning by showing creativity by discovering new things. 3. Build knowledge by developing concepts. 4. Students represent the results of knowledge.

Based on the data contained in Table 1, it shows that there are differences in the practice of training students' creative thinking skills in guided inquiry-based science learning. In research (Handayani, 2019), aspects of thinking convergent (analysis) are trained through finding answers to problems with experiments and records from environmental sources, seeking information through experiments, and divergent (creative) training experiences that inconstruct existing knowledge and show creativity in learning to meet new things.

In the study (Anggraini et al., 2018), aspects of thinking were trained through looking for various evidence to support hypotheses and obtaining real, logical data, which were trained through the stages of finding temporary answers to problems, identification, which was trained through solving problems, and relevance, which was trained through inference. In research (Detagory et al., 2017), aspects of thinking like fluency (fluency) are trained through the stages of formulating problems, flexibility (keluwesan) is trained through the stages of formulating hypotheses and testing hypotheses, originality (kebaruan) is trained through the stages of making conclusions, and elaboration (memerinci) is not trainednot trained.

In research (Mufiannoor et al., 2017), aspects of thinking fluency (kelancaran) are trained through the stages of formulating problems, formulating hypotheses, and collecting data; flexibility (keluwesan) is trained through the stages of testing hypotheses; originality (kebaruan) is trained through the stages of making conclusions; and elaboration (memerinci) is not trained. not trained.

5. Discussion

Creative thinking is the ability to create new things to solve problems or to find new relationships between existing elements (Neenan & Dryden, 2018). (Romayanti et al., 2020) explain that creative thinking includes scientific processes, namely formulating problems, making hypotheses, conducting experiments, analyzing, and drawing conclusions. Torrance explained that creative thinking includes several aspects of thinking consisting of aspects of fluent thinking (fluency), aspects of flexible thinking (flexibility), new aspects of thinking (originality), and detailing thinking aspects (elaboration) (Sulastri et al., 2022). Students' creative thinking in science learning can be developed through guided inquiry-based learning. Guided inquiry-based learning begins with stimulation in the form of questions (Yulita, 2018). With this question technique, it can raise students' curiosity about the topic of the problem to be discussed. Through guided inquiry, students carry out experiments to obtain answers to a problem, so that they are able to gain knowledge and develop their understanding (Fitri & Fatisa, 2019). Experimental activities involve student efforts, either guided or unguided, to find answers to questions or problems, and holding group discussions will encourage students' creative expression in creative problem solving.

In connection with this, In connection with this, Sanjaya in (Sabri & Asy, 2022) describes the syntax of the inquiry learning model including orientation, formulating problems, making hypotheses, collecting data, testing hypotheses, and drawing conclusions. Therefore, guided inquiry learning is able to encourage students to think creatively in science learning. Based on the data contained in Table 1, research (Handayani, 2019) shows that there are differences in the practice of training students' creative thinking skills in science-based learning through guided inquiry. This is in terms of student activities that take place during the guided inquiry-based learning process to train students' creative thinking skills. In the aspect of thinking, this research uses convergent and divergent, or analytical and creative. Meanwhile, in research (Anggraini et al., 2018), aspects of factual, logical, valid, identification, and relevant thinking were trained in this study using several stages of guided inquiry, namely the stages of solving problems, finding answers, looking for evidence, analyzing, and concluding.

Based on research by Detagory et al. (2017) and Mufiannoor et al., (2017), practice aspects of fluent thinking (fluency) at the stage of formulating the problem. The stage of formulating a problem is a step to encourage students to identify a phenomenon (problem) that contains a puzzle (question), which is then formulated into a problem statement, and students are encouraged to find the right answer from the problem formulation (Krismanita & Qosyim, 2021). In the stage of formulating the problem, students have the opportunity to think fluently (fluency) in formulating an idea that is relevant to the phenomenon presented as a guide to solving problems (Supriyadi et al., 2021). So at the stage of formulating the problem, it will be more effective if students can practice their creative thinking on aspects of fluent thinking (fluency). Aspects of fluent thinking (fluency) are the lowest level of creative thinking. In other words, aspects of smooth thinking (fluency) underlie creative thinking at every stage of inquiry-based learning Guided According to (Krismanita & Qosyim, 2021) says that if the creative thinking aspect is given a weight, then the lowest level is the fluent thinking aspect (fluency).

6. CONCLUSION

Based on the results of the analysis, it can be concluded that the ability to think creatively includes fluency, flexibility, new thinking, originality, and elaboration. There is also a suitability of the guided inquiry stage and aspects of creative thinking, including the aspects of fluent thinking found in the observation stage and formulating problems, aspects of flexible thinking in the formulation of hypotheses, new aspects in the phase of collecting data, and aspects of detailed thinking in the stages of testing hypotheses and conclusions. Based on the description above, it is

known that of the four research results that have been analyzed, research by Detagory et al. (2017) and Mufiannoor et al. (2017) is more effective in encouraging students' creative thinking abilities in elementary school science learning.

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