Development of IBL Model with Scaffolding Technique to Improve Creative Thinking of Grade IV Students of SDN Kalisalam 2

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Abstract: *The low reasoning ability of students in processing information has an impact on learning outcomes and creative thinking skills. So it is necessary to develop a valid, practical, and effective learning model to improve students' creative thinking skills. The research method used was the Borg and Gall model which was modified into 8 stages. This research was tested on fourth grade students of SD Negeri Kalisalam 2. Data collection used questionnaires for student expert validators, and teachers, non-test assessments to measure students' creative thinking skills, and interviews. This research evaluates the validity, practicality, and effectiveness of the developed learning model. The results of expert validation showed that the model and learning materials were very valid with an average score of 90.16%. In detail, the learning model validator gave a score of 93.66%, while the material expert gave a score of 86.66%. The practicality assessment before and after the trial was 84% and 80% respectively, both in the "practical" category. The effectiveness of the model was measured through student questionnaires with an average of 79% ("effective") and non-test assessment of creative thinking skills, where 16 out of 23 students showed improvement after the application of the learning model. This guidebook/prototype of inquiry-based learning model development with scaffolding techniques is considered effective for improving students' creative thinking skills, besides that this model can also help teachers in encouraging innovation in classroom learning to be more interesting.*

Keywords *: Creative Thingking Skills, Guided Inquiry, Scaffolding*

1. INTRODUCTION

There have been many studies that state, to face the demands of the 21st century, diverse knowledge and thinking skills are needed. (Harjono et al., 2024). The skills required in this century are; critical thingking, problem solving, creativity, colaboration dan communication (Nurhayati et al., 2024). Widia (2020) says; A creative idea will emerge when a person is feeling an urgent need in his life, without them realizing that while thinking about finding a solution there is a meeting point of a brilliant idea that had never been thought of before. D. Fasco said "Creativity is associated with the ability to handle high task novelty" which means that the more often a person faces a problem of a different level, there will be an urge in him to think creatively in finding solutions or creative ideas from the problems faced. From the continuous encouragement, it will be accustomed to always thinking and thinking. Of course, in learning activities, creative thinking must always be attached to each learner, where students will explore knowledge in their own minds to try to find something new.

According to Damaiyanti (2024) A flow that involves elements of originality, fluency, flexibility, and elaboration is an aspect of creative thinking skills. This shows that creative thinking can develop a person's thinking power. (Amida et al., 2018). According

to Harjono (2024) indicators of creative thinking consist of, *Fluency*, *Flexibility*, *Originality*, and *Elaboration*. The stages in the Guided Inquiry learning model can develop students' creativity. The stages in its implementation are orientation, problem formulation, hypothesis formulation, data collection, hypothesis testing, and finally conclusions. One of the indicators is fluency which can be measured by the number of appropriate opinions/answers in the number of answers that can be generated in a question. In line with Guilford's statement, elaboration is the ability to clarify an idea on a given stimulus. In this study (elaboration) directs to, how do students understand the explanation of a concept in social studies subjects that will be explained later. To see flexibility, we can analyze how students see problems from different perspectives to solve a problem. As for the originality indicator, it can be measured through project activities to analyze students regarding the extent of their sense of responsibility, and the originality of the products they have made.

Teachers can use various models in delivering material, especially to develop creative thinking in students by using guided inquiry models.. Widia (2020) said, Learning models that focus on the process and skills in conducting research characterize the inquiry learning model/approach. Creative thinking, is the skill of providing a variety of possible answers or solutions to a problem related to information that has been shared and generating many ideas to a problem. This understanding is oriented towards various ways to find solutions to a problem and generate new ideas.(Subawo, 2022)

2. LITERATURE REVIEW

Maria Gradiana Mau, Wasis and Tjipto Prastowo with the title "Analysis of Guided Inquiry Learning Devices to Improve Students' Creative Thinking Skills" stated that students' thinking skills can be improved through the help of learning tools in the form of test sheets, lesson plans, LKPD which in the learning process uses the Guided Inquiry model. In addition, the validation results for all learning components are considered valid by the validators. So the application of this model is considered very good and has an effect on increasing students' creative thinking (Mau et al., 2023).

Ruth Megawati with the title "*Application of the Guided Inquiry Learning Model to Improve Student Creativity and Activeness in the Teaching and Learning Process Biology Education Study Program*" This research shows that the Guided Inquiry Learning Model requires students to play an active role during learning activities. With structured steps, students are invited to ask questions, seek answers, and build their own

understanding. This process not only facilitates the absorption of material, but also hones students' critical thinking and creative skills. (Megawati, 2023).

Choifah dkk, with the title "*Systematic Literature Review*: Upaya Meningkatkan Kemampuan Berpikir Kreatif pada Pembelajaran Matematika" The results of the study state that the Guided Inquiry approach can develop creative thinking skills through indicators of fluency, flexibility, originality, and elaboration. There are several steps that can be taken to develop creative thinking skills, namely: Open Ended, Open Inquiry, Project Based Learning, Resource Based Learning, Creative Problem Solving, Realistic Mathematics, or Guided Inquiry in mathematics learning. Each indicator certainly has certain advantages and characteristics, so it can be said that each indicator can help in the process of developing creative thinking skills (Choifah et al., 2022).

Ika Martiana with the title "Pemberian bantuan berupa *scaffolding* untuk meningkatkan kemampuan berpikir kreatif siswa kelas V SDN 01 Pedawang" said that scaffolding is one of the many principles of learning that is considered effective and allows learners to adjust their own needs. According to Martiana (2021). Scaffolding is providing intensive guidance to children when starting a lesson, then slowly reducing the guidance so that children can master the material by themselves. The teacher's role as a facilitator here is to help break down learning concepts that are considered too heavy, into simpler sub-points of material and make it easier for students when constructing their own thoughts to be more systematic so that they come up with extraordinary ideas. The stages in the Guided Inquiry approach have a crucial role in efforts to improve creative thinking skills. These stages include problem formulation, formulating hypotheses, collecting data, and conclusions. In this approach, students are given direction from the teacher to find a solution to a problem with a different point of view (Martiana, 2021).

The summary results of previous research on Guided Inquiry and Scaffolding indicate the importance of innovation in the Guided Inquiry model and Scaffolding Techniques to develop creative thinking skills in social studies learning in elementary school. Each learning model certainly has its own appeal, has characteristics that can be adjusted to the needs of the researcher. In addition, the learning model also undergoes development, which aims to keep up with the times. The problems that exist in schools are increasingly diverse so that sometimes a model needs to do what is called regeneration. Learning models/approaches that can develop creative thinking skills actually already exist, but the novelty here is how the model can increase students' creative thinking more easily to be formed with the help of a learning technique, so this model is designed to fill the void.

3. METHODS

One of the research procedures used in research on the development of IBL (Inquiry-based learning) models with scaffolding technique at SDN Kalisalam 2 is development research (R&D) (Waruwu, 2024). Research and Development (R&D) is a stage to develop or improve existing products. In the field of education, development research is one of the alternatives to answer research questions so that solutions can be found so as to develop and apply more innovative education. (Okpatrioka, 2023).

The type of model used in this research is the Borg and Gall model. This model provides a structured approach to conducting comprehensive and valid research. This model is known for its systematic stages when conducting educational research. The choice of Borg and Gall development is based on practical considerations. Of the 10 stages, researchers only took 8 stages of research. So the researcher made modifications as a form of adaptation and modification of the Borg and Gall model. This is due to the limited time and money available. In addition, the development of the Guided Inquiry learning model assisted by the Scaffolding technique is more focused on the main objective of the study, which is to produce an interesting and feasible learning model to be used as a support in the learning process of grade IV students. The eight stages are as follows:
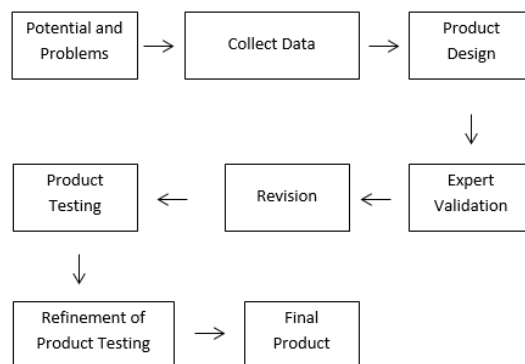
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[Potential and    →  [Collect Data]  →  [Product
 Problems]                                Design]
                                            ↓
[Product       ←  [Revision]  ←  [Expert
 Testing]                         Validation]
   ↓
[Refinement of   →  [Final
 Product Testing]    Product]
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Figure 1

Researchers used questionnaires, interviews, and observations to serve as data collection instruments (Fitriyantoro & Prasetyo, 2016). Data collection used two types of instruments: initial information collection instruments and development research instruments. The initial instrument includes questionnaires for teachers, validators, and teacher interview guidelines while for the second data collection instrument, namely process assessments and questionnaires for students.

4. RESULTS & DISCUSSION

In accordance with the statement at the beginning, that data collection techniques are divided into 3, namely questionnaires, process assessments and interviews. For the questionnaire itself there are 4 subjects (material experts, model experts, teachers and students) while the process assessment is carried out by researchers on students' ability to think critically during learning activities, and interviews are conducted with class teachers. In this study, the development product will be tested through 3 analyses, namely validity, practicality and effectiveness. In the practicality assessment, there are two assessments by the teacher, namely before and after the research is carried out by the researcher's performance in preparing the research components. For the technique of calculating the results of the questionnaire from the 3 points, it was analyzed using the formula from Akbar (2013:42) (Siskariyanti, 2016) as folows :

$$x = \frac{\Sigma X}{\Sigma Xi} \times 100\%$$

Description :

x : Percentage Result

ΣX : Score of All Statements

ΣXi : Maximum Score

100% : Constant

And obtained the following data:

Table 1

Data	Subject	Percentage	Categori
Product validity	Learning Material Expert Validation	86,66%	Very Valid
Product validity	Learning Model Validation	93,63%	Very Valid
Practicality	Teacher	Before: 84%	Practical
		After : 80%	
Effectiveness	Student	79%	Effective

In addition to submitting a questionnaire, the researcher also conducted an interview with the homeroom teacher, about the learning model being developed, the results of the interview are:

"In this learning activity, all students are actively involved, because they are divided into several small groups that are adjusted to their cognitive level, so that each student has a greater responsibility, without having to depend on friends with higher cognitive levels. So that the aspects of cooperation and communication can run in harmony.

This model is suitable for IPAS lessons, because this subject emphasizes the reasoning process of students. My suggestion is maybe if there is another opportunity, the learning should be more conceptualized, especially on the opportunity for students to get treatment / scaffolding, so each student must prepare a list of questions they want to ask and the teacher will stay in the group based on a predetermined duration, so that the teacher is not confused when there are other groups who want to ask" (Interview, February 3, 2025).

As for the process assessment, the data obtained comes from teacher data and researcher data during the research activities, as follows:

Teacher data	Researcher's processed data

Figure 2

Figure 3

If observed further, based on the data above, it can be concluded that Point 4 often appears = 8 students, Point 3 often appears = 8 students, Point 2 often appears = 1 student, and Point 3 often appears = 6 students. The higher the points that often appear obtained by students in the process assessment above, it can be conveyed that the analysis of the practicality of this process assessment gets the category "effective". So it can be said that the use of inquiry-based social studies learning models with scaffolding techniques can improve students' creative thinking skills.

5. CONCLUSION

Based on the results of research that has been done can be concluded that, the development of inquiry-based social studies learning model with scaffolding techniques, namely, 1) can improve students' creative thinking skills, 2) provide access in the form of ease of implementation in the future for teachers, 3) all students can work well together, without depending on friends whose cognitive level is higher, and 4) encourage innovation in learning in the classroom to be more interesting.

6. LIMITATION

The limitation in this study lies in the selection of the model used, namely, the Borg and Gall model.

a. In the Borg and Gall model, there are 10 steps in its application, while this study only uses 8 steps because researchers have constraints on time, as well as funds in the implementation process; and

b. Creative thinking is measured by non-test assessment.

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