

Development Of Sgoe Learning Model (Stimulation, Guide, Observation, Evaluation) In Junior High School Science Learning in Coffee Plantation Environment to Improve Problem Solving Skills

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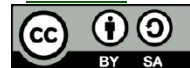
Sgoe learning model

Local wisdom

ABSTRACT

The purpose of this study is to describe the characteristics of SGOE learning model development (Stimulation, Guide, Observation, Evaluation) and determine the problem-solving ability of students in junior high school. The research method to be used in this study is the 4D method (Define, Design, Develop, Disseminate). Trial design using LKPD Design. And the results of the effectiveness of the SGOE learning model show that it can improve students' problem-solving skills which is characterized by an increase in scores at meeting 1 obtained an average of 59% in the category of quite good. And at the 2nd meeting, an average score of 82% was obtained in the good category. SGOE learning model in students allows it to be developed more broadly with the development and problems and challenges faced by students in junior high schools around coffee plantations.

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1. INTRODUCTION

Natural Science (IPA) is a science that studies events in nature. Natural Science learning is learning that applies concrete concepts that can develop students' experience as well as competence in order to understand the environment using the concept of science (Nurdyansyah & Amalia, 2018). Therefore, in order for science learning to run optimally, there needs to be support in the form of a supportive learning environment and process so that it can encourage the achievement of the desired competencies. A conducive and interesting learning environment, one of which is by optimizing learning based on local wisdom. In Jember regency, one of the local wisdoms is coffee plantations Mujakir (2015). It is appropriate that the local wisdom of coffee, especially in Jember district, is combined into science learning in schools so that students can get to know more about the local wisdom of coffee in Jember district.

The problem that occurs around the coffee plantation environment, especially junior high school students around coffee plantations in Jember students do not know that coffee is one of Jember's local wisdom, so it should be introduced early to students to develop the local potential of the region. An alternative that can be done to optimize local wisdom, especially coffee around the school environment in junior high school, is by integrating learning based on local wisdom.

Integrating the science learning process with local wisdom, especially coffee, is rarely found. This is reinforced by the results of observations as well as interviews with science teachers in coffee plantation areas, as well as the results of questionnaires with PPG science teachers Jember that teachers have never associated science learning with local wisdom around the school to improve problem-solving skills. Problem-solving ability is one of the important abilities that must be possessed by students because in real life they are always faced with problems that demand student creativity in order to find solutions to the problems they face. Problem-solving skills enable students to discover their concepts comprehensively, meaningfully, authentically and in an easy-to-apply manner (Fitriati & Marlaini, 2020).

Learning innovations that can be done in the learning process, one of which is to use the *Contextual Teaching and Learning (CTL)* learning model. The application of the CTL learning model has previously been applied by Syamsudin (2020), learning using the CTL learning model can significantly improve the integrated science learning outcomes of grade VII students of SMP Negeri 4 Jonggat. Learning problems in coffee plantation schools can not only be overcome using a learning model (CTL) but can also be overcome by a learning model (PBL). According to Wabdaron & Reba (2020), one way to achieve success in learning is to focus on problems as a starting point in learning. In addition to having advantages, the PBL learning model also has the disadvantage that it takes relatively longer so that it is not uncommon for students to face difficulties in the problem-based learning process because students are required to analyze, formulate hypotheses, and solve problems.

With the advantages and disadvantages of the CTL learning model and PBL learning model, it can be developed into a new learning model that can later overcome teacher problems and can be used as a new breakthrough in learning in coffee plantation junior high schools. The advantages of the CTL model are expected to cover the weaknesses of the PBL learning model and vice versa. The integration of the two models as a foundation so that the development of the SGOE learning model (*Stimulation, Guide, Observation, Evaluation*) is obtained. The SGOE learning model is in accordance with the characteristics of students in the coffee plantation school environment because students can directly observe and apply learning around coffee plantations. In addition, the SGOE learning model can also be applied in other schools in urban areas, not necessarily in coffee plantation schools by implementing adequate support systems that must be prepared, for example, teachers provide learning videos containing material on the interaction of living things with their environment. With the SGOE learning model, it is expected to empower problem-solving skills.

2. RESEARCH METHOD

The research method to be used in this study is the 4D method (*Define, Design, Develop, Disseminate*). This method aims to develop an SGOE (*Stimulation, Guide, Observation, Evaluation*) learning model that is appropriate to the context of science learning in a coffee plantation environment. The first stage is the Definition stage, where an analysis of science learning conditions in the coffee plantation environment is carried out. The second stage is the Design stage, where the SGOE learning model will be designed based on the learning characteristics in coffee plantations. The third stage is the Development stage, where the learning model will be implemented in science learning in a coffee plantation environment. The last stage is the Dissemination stage, where the research results will be disseminated to schools in Jember to share knowledge and experience related to the development of the SGOE learning model in the context of science learning in a coffee plantation environment (Sugiyono, 2012: 407).

Data Type

The data obtained is the result of validation of the results of the learning model developed in the form of both syllabus and RPP. The results of teacher observations on the SGOE learning model and student responses after learning testing data that have been applied in the actual classroom. As well as the data obtained in the form of problem-solving skills

Data Collection Methods

1) Method of collection as well as filling out validation sheets

Data was collected from data from the validation of SGOE learning model guidelines by experts (lecturers) and practitioners (teachers), validation of material on the interaction of living things with their environment by lecturers and practitioners, validation of syllabus by lecturers and practitioners, validation of lesson plans by experts and practitioners. The validation data is in the form of scores, criticisms and suggestions in order to improve the SGOE learning model developed.

2) Questionnaire

Needs analysis questionnaires include teacher response questionnaires to the SGOE learning model, and student response questionnaires and problem-solving skills inventory questionnaires.

3) Test method

Testing is a way of conducting assessments in the form of tasks and carried out individually or in groups to produce a result.

4) Observation method

The observation method is used to observe the activities of students and teachers carried out directly. What is observed is a picture of attitudes as well as actions. Observations in this study are in the form of direct observations made in the field in the learning process during the application of SGOE model development using observation sheets.

5) Documentation

Documentation aims to perpetuate a process from the beginning to the completion of research by collecting data, interviews conducted with teachers and students, lists of names of students involved in SGOE model development research, photos when the research was conducted, and videos of activities observed during SGOE learning.

3. RESULT AND DISCUSSION

The following are the results of small-scale, large-scale.

Table 1. Individual Problem Solving Skills Data (small group test)

Meeting	Trial	Average	Category
1	Stage 1	35	Not Good
	Stage 2	56	Good enough
2	Stage 1	59	Good enough
	Stage 2	63	Good

Based on Table 1, data on individual problem-solving skills were obtained in the small group test at meeting 1 at trial stage 1 obtained an average of 35 in the poor category. While meeting 1 of the stage 2 tests was obtained an average score of 56 categories was quite good. While the average score of meeting 2 stage 1 tests is 59 categories is quite good. The average score of the 2nd stage 2 meeting test was obtained with a value of 63 in the good category.

Table 2. Individual problem-solving skill data (large group trials)

Meeting	Average	Criterion
1	52,60	Good enough
2	68,55	Good

Based on Table 2, it was obtained that the average value of problem solving skills at meeting 1 was obtained at 52.60 while at the 2nd meeting the average value of problem solving skills was obtained at 68.55, the results of individual problem solving skills could be categorized as good if they reached numbers 61-80 according to poly scores, at the first meeting the average value of problem solving skills was categorized quite well while for the 2nd meeting the average skill value Troubleshooting is categorized as good. It can be concluded that there was an increase in the average score on problem solving skills at meeting 1 and meeting 2 by 15.95 points.

4. CONCLUSION

The average score for group problem solving skills for stage 1 was 60, while for stage 2 the average score was 85 in the very good category. Meanwhile, the average score for individual problem-solving skills for stage 1 of learning is around 59 and the average score for stage 2 is 82 in the very good category. Apart from that, at the Deissimulation stage, data was also obtained on the results of teacher responses and student responses to the SGOEi learning model, namely very good teacher responses to the SGOEi learning model, namely 93.77% and student response to the SGOEi learning model at schools A, B, and C in order of 92.20%, 96.90%, and 98.86% in the very good category.

According to teachers, the SGOE learning model has advantages such as making students active in participating in learning, it can help students to solve their learning difficulties, in addition, with the presence of discussion activities and educational activities, students can practice social communication in an interactive manner group sound. According to modern research, SGOEi learning takes a long time if it is not prepared well.

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