SMALL GROUP DISCUSION (SGD) LEARNING MODEL ON UNDERSTANDING THE CONCEPT OF THE NATURE OF LIGHT IN SD NEGERI 1 PUGUH

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Abstract

The purpose of this study was to improve the ability of students of SD Negeri 1 Pug uh in understanding the concept of class IV. This type of research is quantitative research using experimental research methods. The research subjects consisted of 48 fourth grade students of SD Negeri 1 Pug u h. data collection techniques through tests, observations and interviews. The results show that we will use the small group discussion method based on internships:1. The value of tcount > ttable is 3.898 > 2009 and Sig. There is a difference in the average ability of students to understand concepts, it can be seen from the case where the score (both) is 0.001. If 0.05, H0 is rejected and Ha is accepted. 2. The small group discussion model can improve students' understanding of concepts represented by Fcount5040 with a significance of 0.035 & Value for 0.05 and R2 = 0.182 = 18.2%. The conclusion of this study is a small group discussion model based on internships. There are differences between the use of the lab model and other models, which may affect your understanding of the concept of the nature of light.

Keywords – Concept Understanding; Practicum; Small Group Discussion

1. Introduction

Julianto (2016) explains that science is a field of natural knowledge in the form of natural phenomena that occur in our daily lives. In addition, science is associated with how to find information about nature. In the form of a championship. The person or process of discovery and its principles. Because the discovery of science is evidenced by hands-on activities/internships, the material consists of several sections that provide systematic information about nature.

Observations made by researchers at SD Negeri 1 Puguh in Pegandon District, Kendal Regency when starting learning activities at the beginning of face-to-face learning resulted in slow student responses and less active learning activities.

In addition to the lack of learning activities, the learning resources used in Class IV SD Negeri 1 Puguh, Pegandon District, Kendal Regency are limited, namely 48 students who are divided into two groups, namely Class IVA and Class IVB. The learning resource book used is a student thematic book. From the large number of students, the school only has 23 Theme 5 Theme books. Class IVA has 11 Theme 5 theme books, 12 Theme 5 Theme books and Class IVB Theme Books to support learning. This means that students do not take the initiative to seek knowledge in library books and other sources. From the beginning, Linuwih from Ela Suryani (2018) found that the factors that led to the emergence of the concept of understanding were everyday intuition, the learning process, reading textbooks, knowledge as a separate part, and knowledge as a theoretical structure.

Efforts that can be made by teachers to overcome these problems are to apply learning models related to the learning process to improve students' understanding of concepts.

Mari & Gumel (2015) argue that there are many things that teachers need to pay attention to to overcome students' conceptual understanding problems. One of them is the applied learning model. Teachers can modify and modify the learning model used to help students understand the concept. The learning

model in question is a collaborative learning model. Sanjaya (2016) states that the cooperative learning model is a series of learning activities carried out by students in certain groups to achieve the learning objectives that have been formulated. Learning in groups will make it easier for students to understand difficult concepts and can improve students' thinking skills . This statement refers to the application of the discussion model. One model of collaboration in the form of discussion is small group discussion. By using the small group discussion learning model which is commonly called small group discussion, students can broaden their horizons in studying the material. Ernawati (2014) explains that the small group discussion learning model has several advantages. The advantages of the small group discussion model are that it trains student communication, fosters a close atmosphere with friends, pays attention to the opinions of others, collects opinions in a short time, stimulates thoughts, and is able to encourage. Participate in member discussions Post discussions.

In addition, Kusumaningsih Berliana & Suryani Ela (2021) found that learning through group discussions also helps students express opinions and communicate well.

Intan Mahararni (2016) explains the benefits of internships by studying this Practice method . It has the following benefits: Satisfying ability, learning how to make discoveries only through the discovery process itself, extending the memory process or remembering longer, making lessons more child-friendly. From these various explanations, the researchers applied the Small Group Discussion (SGD) model and tried experimental studies using the real world directly working on the concept of light matter at SD N 1 Puguh which is a property of SDN light 1 Puguh Kendal Regency. From several problems, we can conclude the formulation of the problem as follows:

a. Are there differences in the results of understanding the concept of the nature of light in students using the small group discussion (SGD) model based on practicum/practice & not by using it on SDN 1 Really ?

b.   Is there a significant effect on the learning model small group discussion (SGD) based on practicum/practice on understanding the concept of light at SDN 1 Puguh ?

From the various problem formulations we received, we conclude that the objectives of this study are:

a. Use the practice-based small group discussion (SGD) model to see the level of students' understanding of the nature of light without using it at SDN 1 Puguh. b. Learn about the impact of using the lab-based small group discussion model on students' understanding of the nature of light at SDN 1 Puguh. Ali Christian. (2018) The application of the small group discussion method using a collaborative learning model to improve student learning outcomes in elementary school by studying at . It can be concluded that the type collaborative learning model small group discussion can improve student learning outcomes in science learning in class VSD Mujahidin 2 Surabaya. The difference between the studies lies in the subjects and research metrics. The research conducted is the effect of the lab-based small group discussion (SGD) model on understanding the concept of the nature of light.

A study conducted by Angga Putra et al. (2016) About the effect of the puzzle-type collaborative learning model on understanding scientific concepts. The results of the study can be summarized as follows. First, students who study with the jigsaw type collaborative learning model are very capable of understanding scientific concepts. Second, there are differences in understanding scientific concepts between students who study with the jigsaw type collaborative learning model and the direct learning model. The difference between and research conducted by researchers lies in the purpose of the variable. The research conducted is the influence of the small group discussion (SGD) model based on practicum on understanding the concept of the nature of light.

A survey conducted by Ela Suryani.dkk (2016) Analysis of the understanding of scientific concepts of elementary school students using a two-layer test with

cognitive conflict learning. shows that cognitive conflict learning is effective in increasing the understanding of scientific concepts of elementary school students. The difference from the research conducted by the researcher lies in the object variable. The research carried out is the influence of the small group discussion model (SGD) based on lab courses on the understanding of scientific concepts about the nature of light.

Research conducted by Khatarina Suartini (2017) on the management of learning the properties of light with the lab method to improve elementary school process skills. Knowledge of three process skills were collected: observation (data interpretation), observation interpretation, and communication, based on research results obtained from learning management through hands-on activities to improve students' process skills. The difference in research conducted by researchers lies in the purpose of the variable. The research conducted is the influence of the small group discussion (SGD) model based on practicum on understanding the concept of the nature of light.

2. Method

The approach used in this study is quantitative, because this study aims to explain the impact of the practice-based small group discussion (SGD) model on students' understanding. The method used in this research is the experimental method. The experimental method can be interpreted as a research method used to determine the effect of a particular treatment on other treatments under controlled conditions. In this experimental research there is treatment.

The type of experimental method used by the author in this study is a true experimental design in the form of a control group design before and after the test, because the samples used for the experimental and control classes were chosen randomly. In this design, each experimental class and control class were tested beforehand to find out the difference. If there is no significant difference in the results of the experimental group, then the results of the pretest are good.

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X (Laboratory-Based SGD) Y (Student Understanding Concept) Example of pre-test treatment after experimental test.

Table 1. Research Design

Group	Sample	Pre-test	Treatment	Post-test
Experiment	R	O_1	X	O_2
Control	R	O_3		O_4

Information:
R = Random
O_1 = Pretest score in the experimental class
O_2 = Posttest score in the experimental class
O_3 = Pretest score in the control class
O_4 = Posttest score in the control class
X = Treatment

The sampling method in this study is probabilistic sampling using the simple random sampling method because the population is taken at random without regard to the layers in the population. Using techniques and data collection tools using tests, observations, interviews, and documentation.

3. Result and Discussion

Differences in the small group discussion learning model based on practical courses in understanding the concept of the nature of light. Independent sample T-test was used for statistical analysis aimed at comparing two unpaired samples. To find out whether there is a difference in the average student learning outcomes of the control group and the experimental group, it is necessary to make a research hypothesis as follows. The criteria for determining the independent sample t-test are:

a. For the value of sig. (Both parties) If > 0.05, Ho is accepted and Ha is rejected. This means that there is no difference in the average student learning outcomes between the control group and the experimental group.

b. For the value of sig. (Both sides) <0.05, Ho is rejected and Ha is accepted. This means that there is a difference in the average student learning outcomes between the control group and the experimental group.

From the results of the independent sample t-test, the value of ttable is 3,898 > tcount 2009 >, Sig. It can be concluded that the value (2tailed) is 0.001 and this value is . t table is 3.898 > 2009, the value of Sig (2tailed) is 0.001, and this value is If 0.05, H0 is rejected and Ha is accepted. This means that there is an average difference in students' conceptual understanding abilities between the control and experimental classes.

This is in accordance with the research of Astuti, Annisa (2020) which explains that the small group discussion learning model shows an average difference between the experimental class and control class. In addition, Marnelli and Diyyan (2019) added that collaborative learning in small groups is superior to traditional learning. Study Marni and Yusuf (2015) also show that the use of the small group discussion model has a positive effect on improving student performance.

From the comments above, we can conclude that learning with the small group discussion model produces better results than traditional learning and there are differences in students' understanding of the concepts they get. You can also learn from the observations of the experimental and control classes from day 1 to day 4.

Table 2. Comparison of Experimental and Control Class Observations

COMPARISON	CONTROL CLASS	EXPERIMENT CLASS
first day	77,28%	75,81%
second day	75,39%	76,68%
third day	79,82%	78,68%
fourth	76,11%	78,76%
Average	76,26%	77,48%

Based on the observation sheet above, it shows that in the experimental class students are more enthusiastic to take part in learning using the Small Group

Discussion model , from the results of the interviews students are also happy to take part in learning both in the experimental class and in the control class. Anantama Dewantoro, et al (2019) also said that when using the small group discussion method, discussion activities will get used to expressing opinions, exchanging ideas, and being confident so that they can improve understanding of a concept.

Influence   Practicum-Based Small Group Discussion Learning Model on Understanding the Concept of the Nature of Light

Simple Linear Regression Test Analysis was used to measure the magnitude of the effect of learning outcomes on concept understanding using the Practicum-based SGD Model on concept understanding. We can see that the hypothesis used is seen from the results of hypothesis testing (simple linear regression) obtained by the Fcount 5040 with a significance of 0.035 < 0.05, and the value of R 2 = 0.182 = 18.2%. So the regression model can be used to predict the participation variable or in other words there is an influence of the practicum-based Small Group Discussion (SGD) learning model variable (X) on the concept understanding variable (Y) with a relationship or regression level of 18.2%. The use of the Small Group Discussion model based on the practicum also has an influence on the ability to understand students' concepts on the material properties of light. This statement is evidenced by the Simple Linear Regression Test, seen from the significance value of 0.01 < 0.05 and the value of R 2 = 0.186 = 18.6%, then there is an influence of the Small Group Discussion learning model variable based on practicum (X) on the concept understanding variable. student (Y). This is reinforced by previous research by Lestari et al. (2021) stated that the learning model used can have an influence on students' understanding.

It is also in line with the research of Paoziah Ilma (2017) explaining that the use of the Small Group Discussion learning model has a significant effect on students' understanding of concepts. In addition, Ida Royani et al. (2018) added that practicum learning can improve students' conceptual understanding and critical thinking skills. From the results of the study and other research references,

it can be concluded that the small group discussion model can have an effect on students' understanding of concepts. This is reinforced by interviews about the learning process and indicators of concept understanding. From the results of the interviews, it can be concluded that the direct use of practicum makes students better understand the concepts of the material being taught. With the use of the Small Group Discussion model, students also interact with one another in their group to jointly solve the problems that the teacher gives.

4. Conclusion

Practical small group discussions can help fourth graders better understand. From the data of hypothesis testing/ independent sample t-test , from tcount > ttable, that is 3,898 > 2009, sig. The value (both sides) is 0.001 and this value is &sig. 0.05. In addition, there are differences in students' understanding between the control group and the experimental group because H0 is rejected and Ha is accepted. Practical learning models for small group discussions affect students' conceptual understanding. Judging from the hypothesis test / simple linear regression, the data obtained by the Fcount value: 5040, the significance value is 0.035 and $R^2 = 0.182 = 18.2\%$. Therefore, you can use simple linear regression to predict the relevant variables. That is, the practice-based small group discussion model (SGD) variable (X) affects the concept understanding variable (Y).

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