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The Effect of Individual Guidance Through Google Classroom Towards Learning Outcomes of Science Lessons

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Abstract: Individual guidance is a supervisor's assistance to a mentee (individual) to achieve the goal of personal development and the task of achieving a person's ability to socialize and adapt well to the environment. This is an educational method can utilize information technology as a means to acquire, process, store and disseminate information. This research aims to know the effect of individual guidance on improving learning outcomes in science lesson content for fifth-grade students. Google Classroom is a mixed learning platform for the educational scope that can make it easier for teachers to create, share and classify each assignment paperless. The learning outcomes are a real result achieved by students to master physical and spiritual skills at school which is manifested in the form of report cards every semester. This study uses quantitative research methods with the type of research used is quasi-experimental research. The research design used a non-equivalent control group design. The sample in this study there is two elementary schools, namely class V Public Elementary School No. 1 Dukutalit as the Experiment class while for the control class, namely Class V Public Elementary School No. 3 Bakaran Wetan. Experimental group 1 was given learning using individual guidance through Google Classroom while the control group was given treatment with learning without individual guidance through Google Classroom. The research instrument used tests for learning. Data analysis techniques used in this study are data description, normality test, homogeneity test, and hypothesis testing using t-test and N-Gain. From the research in the experimental class, the average learning outcome was 79.95, while the average learning outcome for the control class was 68.30. So that the average difference is 11.65. The results show the individual guidance learning through Google Classroom will make it easier for teachers to develop students' potential during learning activities.

Keywords: Google classroom, individual guidance, learning outcomes

1. Introduction

The development of science is very rapid, thus requiring the world of education to always follow these developments. The development of a nation is influenced by the quality of that nation. The world of education is currently facing the impact of the Covid-19 pandemic (Pratama et al., 2020). The government has made efforts to overcome these impacts. The government has issued several policies, including closing all educational institutions and limiting human activities outside the home as an effort to break the chain of the spread of Covid-19. Online learning or distance learning requires teachers and students to use technology in carrying out daily learning activities. Along with the times, the development of Information and Communication Technology (ICT) is also growing rapidly (Vesudevan, 2021). Information and communication technology used as a means of information and communication between individuals (Letchmanan & Saad, 2021).

Researchers use media to help online learning. This media is one of the online learning media that is developing and starting to be used, namely Google Classroom. Google Classroom is a special application that is used for online or remote learning to make it easier for teachers to create, group, and share assignments (Mohd Shaharanee, Jamil, & Mohamad Rodzi, 2016). Teachers and students can carry out learning activities at any time through Google Classroom and students will also be able to study, listen, read and send assignments remotely. As for the research by Gupta & Pathania (2021) with the topic Google Classroom: What works and How? Including Google Classroom helps monitor

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student learning. In Google Classroom, teachers can see all student activities in the learning process. The interactions between teachers and students and interactions between students and teachers are well recorded.

Based on the background of the previous problem, some problems can be formulated, namely: Does individual guidance have an effect on learning outcomes in science lesson content for fifth-grade students in the Dr. Cipto Mangunkusumo? While the purpose of the study was to determine the effect of individual guidance on improving learning outcomes in the science content of fifth-grade students in the Dr. Cipto Mangunkusumo.

This research was conducted to determine The Effect of Individual Guidance Through Google Classroom Towards Learning Outcomes in the fifth-grade science lesson Gugus Dr. Cipto Mangunkusumo The results of the data collected will be used as a basis for determining the extent of the influence of Individual Guidance in Google Classroom on student learning outcomes.

2. Literature Review

Coleman & Cross (2021) explains that guidance is a process of helping individuals or students to achieve optimal development. What is meant by the process of helping individuals here is helping students who have learning difficulties. The assistance in question is by the level of difficulty faced by students, which is relatively easy to adapt.

According to Nkechi, Ewomaoghene, & Egenti (2016) in tutoring, there are general goals and specific goals. The general purpose of tutoring is to provide assistance, assistance, and direction to children in the learning process to develop their potential, to achieve optimal learning outcomes towards integrated maturity both physically, mentally, spiritually, and socially, While the specific objectives of tutoring are as follows: 1) Want to help individuals or students in planning learning activities, 2) Want to help students to develop their potential optimally, 3) Want to help individuals adapt to their environment. 4) Want to help students in overcoming obstacles and learning difficulties, 5) Want to direct students to acquire science, technology, and art, 6) Want to direct students in planning and preparing for the world of work in the future.

Sudargini & Purwanto (2020) states that learning outcomes are changes in behavior as a result of the learning process. Learning outcomes are actual abilities that are measured directly, the results of this learning measurement will ultimately determine the extent to which educational and teaching goals have been achieved. While Mahajan & Sigh (2017) states that learning outcomes are the overall behavioral patterns of both cognitive, affective, and psychomotor obtained by students after participating in the teaching and learning process.

3. Methodology

The independent variable or independent variable is also called the stimulus, predictor, and antecedent. The independent variable is a variable that affects or is the cause of the change or the emergence of the dependent variable (Petter, DeLone, & McLean, 2013). The independent variable in this study is Individual Guidance through Google Classroom as X1 and which is applied to the content material for science theme 6 sub-theme 2 (Heat Transfer around Us).

The dependent variable or dependent variable is also known as the output variable, the criterion, or the consequent. The dependent variable is a variable that is influenced or becomes a result, because of the independent variable (Peter et al., 2013). The dependent variables of this research are learning outcomes and critical thinking skills.

Data collection techniques in this study were used in two ways, namely by test and non-test. According to Wilkins (2018), to obtain data from the object of research, it is necessary to have the right technique to collect data. Data collection techniques are techniques or methods that can be used by researchers for data collection.

Validity test according to Schroeder et al. (2019) for instruments that use tests, validity testing is done by comparing the contents of the instrument with the subject matter being taught. To determine the validity of the item, you can use the product-moment correlation formula as follows (Voorhees et al., 2015).

$$r_{xy} = \frac{N\ (\sum XY\ ) - (\sum X)(\sum Y)}{\sqrt{[\,N\ (\sum X^2\ ) - (\sum X\ )^2\,|N\ (\sum Y^2\ ) - (\sum Y\ )^2\,]}} \qquad (1)$$

xy = correlation coefficient between variables X and Y
N = number of respondents
X = number of item scores
Y = total score of questions
X2 = total score of the item squares
Y2 = the total score of the square of the questions

To calculate the distinguishing power of each item, the following formula can be used:

$$DP = \frac{(WL - WH)}{n} \qquad (2)$$

Description:
DP = distinguishing power
WL = number of students who failed from the lower group
WH= the number of students who failed from the upper group
n = 27% x N (number of students)

3.1 Research Design

This research uses quantitative research methods. While the type of research used is quasi-experimental research. This type of research has a control group but does not fully function to control external variables that affect the implementation of the experiment. A quasi-experiment is an experimental design that does not do random sampling in taking samples. Researchers use the quasi-experimental because in this study there are external variables that cannot be controlled by the researcher.

The research design used in this study was a non-equivalent control group design (pretest-posttest control group design without random). Before being given treatment, both the experimental group and the control group were given a test called a pre-test. This pre-test was given to know the condition of the group before being given treatment. Then after being given treatment, the experimental group and the control group were given a test, namely the posttest to determine the condition of the group after receiving the treatment. The form of the research design can be seen as follows:

Table 1 - Research design.

Group	Pre-test	Variable	Post-test
E_1	O_1	X_1	O_3
K	O_2	X	O_4

Description:
O1: Pre-test in experimental class 1
O2: Pre-test in the control class
O3: Post-test in Experiment 1 class
O4: Post-test on the Control class
X1: treatment in the form of providing individual guidance through Google Classroom
X: learning treatment without individual guidance

3.2 Research Respondents

The research subjects were all fifth-grade elementary school students in the Dr. Cipto Mangunkusumo, Juwana District, Pati Regency. The population studied were all fifth-grade elementary school students in the Dr. Cipto Mangunkusumo as many as 7 public schools.

The sample in this study amounted to 32 students from Public Elementary School No. 1 Dukutalit, and 24 students from Public Elementary School No. 3 Bakaran Wetan, Juwana District, Pati Regency. The variables in this study include the independent variable or the independent variable and the dependent variable or the dependent variable.

According to Dattalo (2013), variables are everything in any form determined by the researcher to be studied so that information is obtained about it, then conclusions are drawn. The variables in this study include independent variables or independent variables and dependent variables or dependent variables. The independent variable in this study is the effect of feedback in google classroom which is applied to the material of human digestive organs. The dependent variable of this research is learning outcomes.

The quantitative data in this study were obtained from the results of the pretest and posttest of students' motivation and learning outcomes. The data obtained were analyzed using the average increase test data The N-gain was obtained by comparing the difference between post-test and pre-test with the difference between the SMI and scores. N-gain in this study is used to see the increase in motivation and learning outcomes. The N-gain is determined by the following description formula:

Score Post-test Score : Average post-test
Score Pre-test : Average score pretest
SMI : Ideal maximum score

Table 2 - Criteria N-gain.

N-Gain Value	Criteria
g) ≥ 0.70	High
0.30 < (g) < 0.70	Medium
(g) ≤ 0.30	Low

4. Findings and Discussion

The research data were obtained from the data from the test results for the experimental class and the control class. The results of the validity test of the questions are used as data to determine whether the questions are valid to be used or not in the study, then the questions are used to determine the final ability level of students after carrying out learning activities in terms of understanding concepts (learning outcomes) in the control class and the experimental class.

4.1 Description of Learning Outcome Variable Data

Description of data is a picture of data obtained by researchers from the field from each variable. The data obtained from the field will be described descriptively. Data collection was obtained by distributing research instrument questionnaires via a google form. Questionnaires were distributed to 56 students from 2 classes in different elementary schools, namely Public Elementary School No. 1 Dukutalit and Public Elementary School No. 3 Bakaran Wetan. The results of the analysis of student learning outcomes data descriptions are:

Table 3-Analysis question validity test.

Statistics			
		Control Class	**Experiment Class**
N	Valid	24	32
	Missing	0	0
Mean		68.3000	79.9500
Median		73.0000	83.5000
Mode		73.00	93.00
Std. Deviation		16.97087	16.04689
Minimum		33.00	67.00
Maximum		90.00	100.00
Sum		1386.00	1593.00

Based on the table the value of the validity test shows that the average value of the control class is 68.30 and the experimental class is 79.95. In the test values for the control class and the experimental class, there is a significant difference in the average value, which is 11.65 points adrift.

4.2 Description of Individual Guidance Data in Google Classroom

Implementation of Individual Guidance in Google Classroom in this study was measured using 9 indicators namely Google Classroom Implementation, Interactivity, Independence, Accessibility, Ease of communication, Ease of obtaining teaching materials, Ease of reviewing lessons, Students become active, and Less interaction. The 9 indicators were then made into 15 questions and measured using a Likert scale. The scoring score used is a score of 1-4. The data collection technique used a questionnaire distributed via a google form. Distributed to 56 respondents. The highest score obtained was 55. While the lowest score obtained was 25.

For a more detailed description of the results of the Individual Guidance in google classroom, see the following table.

Table 4 - Usage data google classroom.

No.	Score Interval	Frequency	Percentage	Criteria
1	30-38	30	54%	Very Low
2	39-47	19	34%	Low
3	48-56	4	7%	Enough
4	57-65	3	5%	High
5	66-74	0	0%	Very High
Total		56	100%	

From Table 4, it can be seen that the feedback in google classroom is included in the very low condition of 30 students (54%), low criteria is 19 students (35%), enough criteria is 4 students (7%), high criteria is 3 students (5%) and very high criteria is 0 students (0%). It can be concluded that in general, individual guidance through google classroom

during the COVID-19 pandemic in grade 5 elementary school on science subject theme 6 sub-theme 2 (transfer of heat around us) is included in the very low category.

4.3 Research Hypothesis Test

To answer the formulation of the problem proposed, it is necessary to test the hypothesis by using an independent test sample t-test and N-Gain. was an independent sample t-test conducted to determine the difference in student learning outcomes using online learning without feedback with online learning using feedback in the experimental class. This statistics data processing is carried out using SPSS version 25.

3.1.1 Independent Sample t-test (t-test)

Test Independent Sample t-test is used to test the hypothesis. The hypothesis is formulated in the form of a statistical hypothesis (one-sided test). The test criteria are t-count compared to t-table with a significant level of a = 5% with dk = n1+ n2-2 2. The decision-making for the t-test is:

- If $t\text{-}_{count}$ $t\text{-}_{table}$ then H_o accepted and Ha is rejected
- If $t\text{-}_{count} > t\text{-}_{table}$, then H_o is rejected and Ha is accepted

3.1.2 t-test of Student Learning Outcomes Hypothesis

According to Rietveld & van Hout (2017) what is meant by t-test is an analysis used for the comparison of an independent variable that aims to find out the difference between the hypothesized variables. This t-test difference test can be used by researchers to test how far the influence of independent variables that can be used individually in explaining a dependent variable is partial. Then, after analyzing the data, it is continued by comparing the significance with a significant level of 0.05 to find out whether the null hypothesis (H0) and the alternative hypothesis (Ha) are rejected or accepted. The hypothesis there are differences in motivation and learning outcomes of fifth-grade elementary school students through feedback in google classroom on human digestive tract material. Based on Table 5 shows the average value for the two classes there is a difference, the experimental class *is* as big as 79.65 while the control class is 70.00

Table 5 - t-test statistics.

Group Statistics					
	Class	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Science Learning Outcomes	Experiment Class	20	79.6500	16.04689	3.58819
	Control Class	20	70.0000	16.54658	3.69993

Based on Table 6, $t\text{-}_{count}$ is 3.872 while t table with df = 38 is 2.0243 then $t_{>}$ $t\text{-}_{table}$ or 3.872 > 2.0243, so H_0 rejected and Ha is accepted. This means that there are different motivations and learning outcomes for class V students on the subject of human breathing in the experimental class and the control class.

Table 6 - Independent sample t-test.

		Levene's Test for Equality of Variances		**t-test for Equality of Means**						
		F	**Sig.**	**t**	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% Confidence Interval of the Difference**	
									Lower	**Upper**
Science Learning Outcomes	Equal variances assumed	.078	.782	3.872	38	.000	9.65000	5.15409	-.78390	20.08390
	Equal variances not assumed			3.870	37.964	.000	9.65000	5.15409	-.78422	20.08422

3.1.3 Knowledge Individual Guidance in Google Classroom on Student Learning Outcomes

In the description of the data, there are differences in the average value of the experimental class and the control class on student learning outcomes. The control class value is 68.30 and the experimental class value is 79.93. This difference

shows that there is an increase of 11.65 in the use of Individual Guidance in Google Classroom on the learning outcomes of fifth-grade elementary school students.

Based on the results of the $t\text{-}_{count}$ of 3.872 while the $t\text{-}_{table}$ with df = 38 of 2.0243 then $t\text{-}_{arithmetic} > t\text{-}_{table}$ or 3.872 > 2.0243, so H_0 rejected and H_a accepted. This means that there are differences in the learning outcomes of fifth-grade elementary school students on human respiratory organs using Individual Guidance in Google Classroom.

5. Conclusions and Recommendations

The conclusions from the results of the study with the title "The Effect of Individual Guidance Through Google Classroom on Learning Outcomes in Science Lessons for Class V Students of Dr. Cipto Mangunkusumo is Learning with Individual Guidance Through Google Classroom is more effective for improving learning outcomes in science subject in theme 6 Sub-theme 2 Transfer of heat around us than the learning model without individual guidance in class V Elementary School Cluster Dr. Cipto Mangunkusumo, Juwana District. This is based on the value of sig (2-tailed) of 0.00, then the value of 0.00 <0.05. This is because Individual Tutored learning allows students to work alone and in collaboration with others, optimizes student participation, and provides opportunities for students to demonstrate their participation to others.

Based on the conclusions analyzed and the research above, the researchers provide the following suggestions is the individual guidance learning through Google Classroom will make it easier for teachers to develop students' potential during learning activities and further research needs to be done to examine how big the influence of Individual Guidance through Google Classroom on Learning Outcomes on the Content of Science Lessons for Class V Students on other subjects.

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Conflict of Interest

The authors declare no conflicts of interest.

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