Online Learning Using Google Classroom for Biology Education Students During Covid-19 Outbreak

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Abstract

Several online learning media have been implemented at one of universities in Bengkulu City, Indonesia, one of which was Google Classroom. This study aims to determine how the motivation and learning outcomes of Biology Education students after being taught using Google Classroom media. This research used a pre-experimental design one group pre-test-posttest. The sample involved was one class with a total of 26 biology education students. Student motivation was measured using a questionnaire instrument, while for learning outcomes using a test instrument. The data obtained were first analyzed for normality test through the Kolmogorov-Smirnov test. Based on the results of the normality test, it can be seen that the student motivation data shows that the data is normally distributed (with sig 0.194 > 0.05), so it is followed by hypothesis testing through the Paired t-Test. The t-test results show that there is a significant difference in student motivation before and after being taught through Google Classroom with sig 0.000 < 0.05. On the other hand, the learning outcomes data, the normality test shows that the data is not normally distributed (with a sig value nilai 0.05), so the hypothesis is tested through non-parametric tests, namely the Wilcoxon test. The Wilcoxon test also shows that there is a significant difference in student learning outcomes before and after being taught through Google Classroom with sig 0.000 < 0.05. Suggestions for further researchers can analyze how the differences and effectiveness of several other e-learning media in learning biology in universities are. In addition, curriculum developers need to pay attention to how to analyze or evaluate online learning.

Keywords: Online Learning, Google Classroom, Learning Outcomes, Motivation

INTRODUCTION

Initially online learning shows that there are still many educational institutions that have not implemented it, especially in remote areas. Some of the obstacles faced include the lack of supporting facilities and infrastructure in its implementation, such as lack of signal, limited internet quota and limited devices (laptop / smartphone). However, the emergence of the Covid-19 outbreak changed everything, and education sector felt its impact significantly. Related to this, the Indonesian government has issued several policies, including social distancing. It is not only the economic and social sectors that are experiencing a slowdown in the growth rate (Mustakim, 2020). This is in harmony with the expression by Wicaksono, et *al.,* (2020) who revealed that the Learning From Home policy is one way to implement social distancing. The existence of restrictions on the social interaction of this community can inhibit the rate of growth and progress in various fields of life, but this method is considered the most effective (there is no other choice). Other than that Handarini & Wulandari (2020) also revealed that one way out to deal with the problem was online learning. Online-based

learning (in a network) is learning that is carried out remotely by requiring an internet connection. This is also supported by Okmawati (2020) that one of the effective solutions made by the Indonesian government to activate classrooms during the pandemic is by implementing distance learning, one of which is the google classroom. Mulatsih (2020) states that for the continuity of the education process and in order to participate in breaking the chain of the spread of the corona virus, the implementation of learning must be adjusted to the social distancing policy launched by the government, namely conducting online learning.

Daheri et al., (2020) explained that online learning is a learning that is carried out remotely through media that requires an internet connection and other supporting tools such as smartphones and computers. Online learning is very different from learning as usual. This is in line with the statement by Sadikin & Hamidah (2020) that online learning is learning that uses internet networks with accessibility, connectivity, flexibility, and the ability to generate various types of learning interactions. Ahmad et al., (2020) expressing this online learning makes it easy for educators or students, because it can be done anytime and anywhere.

One way that can be used to carry out the learning process online is by using Google Classroom (Sabran & Sabara, 2019). Online media through google classroom is a learning medium that can simplify the learning process, for example in assigning assignments and giving grades without having to use paper. The google classroom media is a platform that provides several facilities, including facilitating the learning process that can be done anywhere and anytime by accessing google classroom online. This is because the use of google classroom media can not only use laptops, but can be installed on mobile or mobile phones (Sukmawati & Nensia, 2019). Arizona et al. (2020) mentioned that there are many online learning applications that can be applied in the world of education these days, one of which is google classroom. Next Ghofur (2018) also discloses that Google classroom has several features that can help in the online learning process, including on this platform, it displays features of student assignments, class arrangement, and several other features that can be used by lecturers in developing learning materials.

Google Classroom is an example of a platform that has been available so far, but the facts show that in the implementation of learning using a platform like this it is still considered commonplace and there are many obstacles from each party. Apart from the need for internet quota, which is not small, there are still many who do not understand how to use it. This is supported by a statement by Naserly (2020) that is, online learning for some Indonesians may still be considered new, even though in their daily lives they are already involved in it without realizing it. Given that this platform is still not used to learning so far,

so that the sudden change of challenges causes no time for all parties (parents, students, and educators) to immediately understand it. This is in line with the phrase by Daheri et al., (2020) that the readiness for online learning has not been maximally determined by the government. Febrita & Ulfah (2019) explains that the use of learning media can stimulate learning activities and be able to foster interest and motivation. In addition, using various learning media can create active interactions in learning.

This online learning has also been implemented at one of the universities in Bengkulu City, Indonesia that become a sample in this study. Several online learning media have been selected by each lecturer concerned with several considerations, however, Google classroom media has been established and used in the distance learning process in the Biology Education Study Program, of course with its advantages and disadvantages. The various kinds of available online learning media create challenges in the world of education, because this will affect learning output such as learning outcomes and student motivation. Ferdiana (2020) revealed that some of the obstacles faced in online learning that were applied in Indonesia were difficulties in understanding the material presented by the lecturers. This is because students still have difficulty accepting online-based learning. Thus this study aims to see how the motivation and learning outcomes of Biology Education students are taught through google classrooms during the pandemic period.

METHOD

This research used a pre-experimental design using one group pre-test-posttest (research involves one group that is given a pre-test (O), given treatment (X) and given a post-test). This treatment depends on the pre-test and post-test scores obtained.The design used is one group pre-test-posttest which can be seen in Table 1.

Table 1. Research design one group pre-test-posttest

Pre-Test	Treatment	Post-Test
O1	X	O2

Information:

X : Google Classroom treatment

O1: Pre-test value

O2: Post-test value

This research was conducted at one of the universities in Bengkulu City, Indonesia in Biology Education Students for the 2020/2021 Academic Year from October to December 2020. The subject in this study was one class of Biology Education Semester 3 students with

a total of 26 students, namely the experimental group I (students using the Google Classroom Platform).

The instrument used in this study was a motivation questionnaire instrument used to see the motivation of students who were taught using a Google classroom platform during the pandemic period. Furthermore, the essay test instrument is also used to obtain data on student learning outcomes. Both of these instruments were given at the time before and after the learning was carried out. This is known as a pretest (pre-test) and post-test (final test). This instrument has been validated by 4 experts according to their fields.

The data in the study included several analytical tests using SPSS version 20, where the first step the researcher took was conducting a normality test to see the data is normally distributed (a significance value of more than 0.05) or the data are not normally distributed (significance value is less than 0.05). If the data normally distributed, the student motivation data is continued by conducting a hypothesis test through the Paired t-Test. But, if the data are not normally distributed, the hypothesis is tested through non-parametric tests, namely the Wilcoxon test.

RESULTS AND DISCUSSION

Considering that google classroom is still relatively new (policy during the pandemic period), so this research begins by providing an introduction to students. Students are asked to install the google classroom application, and read the guidebook in using the google classroom media.

Before starting learning through google classroom media, the researcher gave a pretest to students, namely by providing a motivation questionnaire and a learning outcome test. The results of the pretest and posttest motivation of biology education students can be seen in Table 2.

Table 2. Descriptive Statistics of Student Motivation

	Pretest				Postest		
	N	Min	Max	Mean	Min	Max	Mean
Student Motiva-tion	26	60	87	73.15	60	96	78.69

Table 2 describes the results of the pretest and posttest motivation of 26 biology education students. It can be seen that the average score of student motivation on the pretest is 73.15 with a minimum score of 60 and a maximum score of 87.While the average score of student motivation in the postest shows an average score of 78.69 with a minimum score of

60 and a maximum score of 96. The pretest and posttest data obtained were tested for normality using the Kolomogorov-Smirnov test in Table 3.

Table 3. Normality Test of the Motivation Data

	Kolmogorov-Smirnov	Df	Sig
Pretest	141	26	0.194
Postest	123	26	0.200

Based on the results of the Kolmogorov-Smirnov test in Table 3, it can be concluded that the student motivation data is normally distributed (significance > 0.05), both pretest and postest data, which is indicated by a significance value of 0.194 for pretest student motivation, while the significance for posttest is 0.200. Thus the data analysis can be continued with the Paired t-Test in Table 4.

Table 4. Paired t-Test of the Motivation Data

	Mean	SD	T	Df	Sig (2-tailed)
Pretest-Postest	-5,541	5,329	-5,302	25	.000

Table 4 explains that with the Paired t-Test there is a significant difference in increasing the motivation of students who are taught through google classroom learning media. This is indicated by the Sig (2-tailed) value of 0.000 less than 0.05. Additionally the descriptive analysis of the learning outcomes is can be seen in Table 5.

Table 5. Descriptive Statistics of Learning Outcomes

	Pretest				Postest		
	N	Min	Max	Mean	Min	Max	Mean
Learning Outcomes	26	40	70	54.35	65	84	76.08

Table 5 describes the results of the pretest and posttest learning outcomes of 26 biology education students. It can be seen that the average score of student learning outcomes at the pretest is 54.35 with a minimum score of 40 and a maximum score of 70.While the average score of student learning outcomes in the postest shows an average of 76.08 with a minimum score of 65 and a maximum score of 84. Furthermore, after the pretest and posttest data were obtained, the normality test was carried out using the Kolomogorov-Smirnov test in Table 6.

Table 6. Normality Test of the Learning Outcomes

	Kolmogorov-Smirnov	Df	Sig
Pretest	199	26	**0.009**
Postest	168	26	0.058

In Table 6 shows that the student learning outcomes data are not normally distributed (significance 0.009 less than 0.05) in the pretest data, while the postest data shows that the learning outcome data is normally distributed, which is indicated by a significance value of 0.058 more than 0.05 . Thus, to overcome this, data analysis was continued by conducting non-parametric tests, namely the Wilcoxon test in Table 7.

Table 7. Wilcoxon test of the Leaning Outcomes

	Pretest-Postest
Z	-4.460b
Asymp. Sig. (2-tailed)	.000

Table 7 explains that with the non-parametric test through the Wilcoxon test there is a significant difference in improving student learning outcomes taught through google classroom learning media. This is indicated by the Sig (2-tailed) value of 0.000 less than 0.05.

Based on the findings in the study, it is known that learning media through google classroom can significantly influence student motivation and learning outcomes. This is in line with the results of the research conducted by Nirfayanti & Nurbaeti (2019) which revealed that there was a significant influence on student motivation and learning outcomes after the application of google classroom learning. Other research was also carried out by Suardi (2018). The research results show that the use of google classroom can significantly affect the motivation and learning outcomes of students. Rikiputra & Sulastri (2020) in his research also revealed that the use of e-learning media with the google classroom platform can significantly affect student learning outcomes and motivation.

The significant difference in motivation and learning outcomes between before and after learning through google classroom is due to the fact that the google classroom media has a fairly attractive appearance and several features that can be used in two-way learning, so that learning occurs better organized. Through the google classroom media, students are more enthusiastic and monitored in collecting assignments or exams. This is supported by the expression by Sofa (2020) explained that the features provided in the google classroom media are quite interesting and easy to understand in their use. This allows students to study diligently, so that it can foster student motivation in learning and the existence of student

motivation can improve learning outcomes. Next, Kurniawan (2017) explained that internet-based (online) learning can increase student motivation and learning outcomes. Online learning or online is considered more efficient and its application is more flexible, because it can be done anytime and anywhere. In addition, this online learning can adjust the time availability between lecturers and students. Furthermore, the application of online or online learning is two-way that can make it easier between lecturers and students, where lecture material can be opened using a device other than a computer such as a smartphone that already has an internet application.

Based on some of the statements above, it can be concluded that in general the application of Google Classrom based learning media was adequate during the Covid-19 pandemic. Through the google classroom media, it can be seen that learning materials can be conveyed, of course this is inseparable from the features available on this platform itself. Like a statement by Suhada et al., (2020) that the application of online learning through the google classroom platform for Biology Education students during the pandemic is quite good. Indriani (2020) also revealed that online learning media through the Google Classrom platform can be applied to learning during the pandemic. Google classroom provides many benefits for teachers and students, including that students can still take part in learning even though they are at home during social distancing. It appears that google classroom provides ease of use and accessibility. Iftakhar (2016) explained that learning media using google classroom is very easy to use, because in this media all features are available and integrated. A teacher and student can save all files related to learning on google drive.

Apart from this, the researcher's findings reveal that online learning is learning that has many advantages that can facilitate access to teaching and learning. However, online learning is inseparable from the shortcomings in its application, where some students were found unable to attend lectures properly when lectures were carried out through google meet and deadline collection of assignments (had a time limit). It is known that the covid-19 condition requires them to study at home with conditions in areas that have limited internet access, causing some students to be unable to attend lectures maximally. Similar results were found in the study by Umairah & Zulfah (2020) which revealed that learning by interacting through google classroom media had problems on the internet network, so students could not collect assignments given by the teacher.

The application of online learning during the Covid-19 pandemic is a challenge for all parties (circles), not only how to apply it, but also how to evaluate the teaching and learning process. These two things are very important to understand considering that they are related to

the results of the teaching and learning process during this pandemic, such as learning outcomes and student motivation. As expressed by Susanti (2016) that a learning can be said to be effective can not only be seen from the use of google classrom, but also need to be seen also other learning components. Thus learning needs to be prepared as a whole to get maximum results. One of the effectiveness of using google classroom media in online learning depends on the factor of how students respond to and understand this media. The results of research conducted by Al-Maroof & Al-Emran (2018) revealed that the use of google classroom is influenced by how the perception of ease and perception of the use of google classroom media, so that an institution needs to have a better understanding of how much student acceptance of technology use.

CONCLUSION

Based on the results and discussions in this study, it can be concluded that the use of e-learning media through the google classroom platform can increase motivation and learning outcomes of biology education students, especially at Muhammadiyah Bengkulu University. This shows that the google classroom media can be an alternative choice in learning during the pandemic. Researchers hope that this research can contribute to the field of education, namely evaluating the online learning process, so that it can become a guide or reference for improving learning in the implementation of online lectures in the next semester. In addition, this research is expected to be a reference for educators (lecturers) regarding how and what can be done in analyzing learning in the Covid-19 era at the tertiary level, especially in the field of Biology Education. It is recommended that the use of online learning media through google classroom can be combined with other online media or platforms, so that better and maximum learning outcomes are obtained. Not only that, it is hoped that further researchers can analyze how the differences and effectiveness of several other e-learning media in learning biology in universities. in order to obtain better and maximum learning outcomes. Not only that, it is hoped that further researchers can analyze how the differences and effectiveness of several other e-learning media in learning biology in Higher Education. in order to obtain better and maximum learning outcomes. Not only that, it is hoped that further researchers can analyze how the differences and effectiveness of several other e-learning media in learning biology in Higher Education.

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