

Article

Implementation of contextual approach as meaningful mathematics learning

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Abstract: Online learning carried out during the Covid-19 pandemic as an external factor that affects students' motivation to learn mathematics. The purpose of this study was to analyze the effect of online learning on students' learning motivation during the Covid-19 pandemic. This study uses a quantitative approach, data analysis techniques using simple linear regression analysis. The sample of this study was 60 students from class VII C and VII D at SMP N 3 Bantul, the sample was obtained by purposive sampling technique. In this study, it was found that 1) online learning had a significant effect on students' motivation to learn mathematics in learning during the Covid-19 pandemic, 2) from data analysis, it was obtained a simple linear regression equation $Y = 24,154 + 0,566 X$ and the closeness of the relationship between the variable x (learning online) to variable Y (learning motivation) that is equal to 0.537 so it is included in the moderate category, 3) Then the contribution of variable X to variable Y can be seen from the coefficient of determination of 28.9 and the remaining 71.1% is influenced by other variables.

Keywords: online learning; learning motivation; mathematics

1. Introduction

Education is one of the important factors that can bring change in a person. With education, we can find out various kinds of knowledge that were previously known and not understood. One of the activities in education is learning. Learning is a complex process that occurs within an individual. Learning activities can not only be done at school, but learning can be done anytime and anywhere (Azhar Arsyad, 2014).

In managing good education, both in quality and quantity, efforts are needed to make it happen, both from an educator and a student (Ramdani, 2018; Sulistyowati et al., 2019). To be able to run formal education programs, learning activities are carried out face-to-face in schools so that teaching and learning activities will be more optimal. However, the whole world is being hit by the COVID-19 pandemic. Covid-19 is a dangerous virus because this virus can grow quickly, causing serious respiratory

infections. In Indonesia, COVID-19 has had a major impact on all sectors, including education, with the COVID-19 pandemic, learning activities are carried out online (in the network) and cannot be carried out face-to-face to anticipate the spread of the COVID-19 virus (Primary, 2021).

Distance learning or online in Indonesia began on March 16, 2020 through the circular letter of the Ministry of Education and Culture of the Republic of Indonesia Number 3 of 2020 concerning the Implementation of Educational Policies in the Emergency Period for the Spread of Corona Virus Diese (Covid-19). Platforms that are usually used in learning are Google Classroom, Google Meet, Zoom, Edmodo, WhatsApp, Ruang Guru and so on (Arigiyati et al., 2021).

The online learning model is a model or learning pattern chosen by the teacher to plan an appropriate and efficient learning process to achieve learning goals by utilizing computer networks and the internet (Yanti, et al. 2020:56). desired. The online learning system is carried out using a computer, laptop, or mobile phone that is connected to the internet network. Teachers can carry out learning activities simultaneously using WhatsApp Group, Telegram, Google Classroom, Google Meet, Zoom, and so on.

Online learning has several advantages and disadvantages. One of the advantages of online learning is that learning activities are more flexible. Meanwhile, the drawbacks are that the delivery of learning materials by the teacher is not optimal, and many students do not take online learning well. With these deficiencies, teachers are required to be able to increase student learning motivation.

Motivation is the driving force that can move an individual in achieving the goals set in the field of education, namely learning goals (Uno, 2019). From this opinion, we can understand that students must be motivated in carrying out learning activities. Online learning certainly affects students' learning motivation, many students tend to be lazy to study and do the assignments given by the teacher.

According to (Khasanah & Kusmanto, 2016) motivation is the encouragement of a conscious effort to influence a person's behavior so that he is moved to act to do something to achieve certain results or goals. Students who have high learning motivation will participate in learning activities properly and seriously. -serious. On the other hand, students who have low learning motivation do not participate in learning activities properly and seriously.

Learning motivation is very necessary in carrying out any learning process and in any subject, one of which is mathematics. Mathematics as a subject that requires high thinking skills and requires appropriate teaching methods so that students understand better. One of the materials in mathematics learning is linear equations and inequalities of one variable that is studied by class VII students.

According to the results of research by Anggraeni (2021) explaining the problems or obstacles experienced during online learning during the COVID-19 pandemic at SMPN 1 Kragilan including online learning which was only using google classroom and whatsapp group to provide materials and assignments. This of course has many shortcomings in its implementation, including the teacher cannot explain the material in detail

such as when face to face in class, so that students' understanding of the material discussed is limited. Another obstacle faced is that not all students have their own cellphones, so when given assignments, some students have to wait for their parents to come home from work to be able to do the assignments the teacher gives. That is why it is not possible for teachers to use the Zoom Meeting application because not all students can join, and internet access is different in each area.

From some of these problems it will also have an impact on aspects of student learning motivation due to the lack of infrastructure, feedback or communication between teachers and students via online. Teachers also cannot judge whether students have understood the material given, and students cannot freely ask if there is material that has not been understood, especially in mathematics at SMP N 3 Bantul.

Based on the description above, research was conducted on "The effect of online learning on students' motivation to learn mathematics on the material of linear equations and inequalities of one variable in class VII at SMP N 3 Bantul".

2. Materials and Methods

In this study the method used is a quantitative approach. The location of the research was conducted at SMP N 3 Bantul. The total research population was 224 students from class VII A to VII G, with a research sample of 60 students who were taken using purposive sampling technique. This research data collection using primary data sources collected from the results of the distribution of questionnaires distributed offline and online using the google form, namely the online learning questionnaire and student learning motivation consisting of 20 statements. The validity of the instrument was tested by looking at the value of Pearson's product moment while to test the reliability of the instrument by looking at the value of Cronbach's omission. Analysis of the research data using simple linear regression with the help of the SPSS 25 program, namely testing the analysis prerequisites and testing hypotheses.

3. Results

In this study, the results of the validity test of the online learning and learning motivation variables were obtained, both of which contained one question that was not valid or the score $r_{count} < r_{table}$ 0.361 so that of the 20 questions used only 19 questions. The results of the reliability test of the instrument data obtained the Cronbach's Alpha value on the online learning variable of $0.866 > 0.6$ and on the learning motivation variable of $0.887 > 0.6$ so that the data can be said to be reliable. In the normality test, the value of Asymp.Sig is obtained. (2-tailed) of Unstandardized Residual shows a value of 0.82. This shows a value of $0.82 > 0.05$, or it can be interpreted that the questionnaire data is normally distributed. Furthermore, the data was tested for linearity and obtained the Deviation from linearity value on the online learning variable and the learning motivation variable obtained a value of 0.442, so with the result that the value is more than $0.442 > 0.05$ so that it meets the linearity test. Data that has met the prerequisite test can then be tested for hypotheses.

Table 1. Product Moment Correlation Test Results

Correlations			
		Pembelajaran Daring	Motivasi Belajar
Pembelajaran Daring	Pearson Correlation	1	.537**
	Sig. (2-tailed)		.000
	N	60	60
Motivasi Belajar	Pearson Correlation	.537**	1
	Sig. (2-tailed)	.000	
	N	60	60

** . Correlation is significant at the 0.01 level (2-tailed).

Based on Table 1. it is known that the significance value is $0.000 < 0.05$, meaning that there is a significant correlation or relationship between the X variable (online learning) and the Y variable (learning motivation) with a correlation coefficient of 0.537 which is in the medium category. Then a simple regression analysis was carried out to determine whether or not there was an influence of the online learning variable (X) on the learning motivation variable (Y).

Table 2 Simple Regression Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	24.154	6.021		4.012	.000
	Pembelajaran Daring	.566	.117	.537	4.850	.000

a. Dependent Variable: Motivasi Belajar

From the output in Table 2, it is known that the constant (a) value is 24,154, while the online learning value (b/regression coefficient) is 0.566. From these results, it can be included in the regression equation as follows:

$$Y = a + bX$$

$$Y = 24154 + 0.566X$$

The results of the above equation can be interpreted as a constant of 24,154 which means that the value of the consistency of the learning motivation variable is 24,154. X regression coefficient is 0.566 which states that the addition of 1% online learning will increase students' learning motivation by 0.566.

Based on the hypothesis test table using simple regression analysis, a significance value of $0.000 < 0.05$ was obtained, so H_0 was rejected, and H_a was accepted. So it can be concluded that the hypothesis "There is a Significant Influence Between Online Learning on Students' Learning Motivation" can be accepted.

From the research data that has been analyzed, the implementation of online learning at SMP N 3 Bantul is in the medium category. This is based on a questionnaire analysis using SPSS 25 out of 60 respondents as many

as 16 respondents are in the high category, 41 respondents are in the medium category, and 3 respondents are in the low category. This research shows that the implementation of online learning is going well. Learning carried out from home cannot be separated from the guidance of the teacher and the teacher always monitors online learning activities. The state of the internet network and the facilities available on average are good to support learning. Internet network that is not good will certainly affect the quality of student learning. Online learning is carried out to improve the quality of education, especially during the current Covid-19 pandemic.

Online learning is often known as online learning or another term that is often known is distance learning. According to Isman, online learning is the use of the internet network in the learning process (Albert, 2020). Online learning is an educational innovation that involves elements of information technology and learning. Online learning is learning that uses the internet network with accessibility, connectivity, flexibility, and the ability to bring up various types of learning interactions (Meda et al, 2020).

Meanwhile, the level of student motivation in SMP N 3 Bantul is quite good. This can be seen from the results of the questionnaire analysis using SPSS. 25 of the 60 respondents, 18 respondents were in the high category, 41 respondents were in the medium category, and 1 respondent was in the low category. From the results of these studies indicate that, the learning motivation of students in SMP N 3 Bantul is in the medium category with a percentage of 68.3% where learning motivation here has an important role to support the learning process to obtain results as expected.

The success of students can be determined by their learning motivation. Students who have learning motivation tend to have high achievement. On the other hand, students with low learning motivation will also have low learning achievements. In the learning process, learning motivation is one of the most important dynamic aspects. It often happens that students who lack achievement are not caused by their lack of ability but because there is no motivation to learn so that they do not try to direct all their abilities (Sanjaya Wina, 2013).

From the results of the study, it is known that there is a positive and significant influence between online learning on students' motivation to learn mathematics on the material of linear equations and inequalities of one variable in class VII at SMP N 3 Bantul. This is indicated by the correlation coefficient, namely $r_{xy} = r_{table}$ (5% = 0.361 < r_{hitung} 0,537). Online learning will have a positive effect on students' learning motivation if there are no obstacles such as internet networks, internet quotas, and more attractive learning media from teachers. The use of google classroom media, google form, power point, and YouTube is much favored by students. This can be an input in choosing learning media for online learning to increase student learning motivation.

Furthermore, to find out how much contribution or influence variable X has on variable Y, the researcher uses the coefficient of determination with the help of the SPSS 25 program which can be seen in the following table

Table 3 Results of the Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.537 ^a	.289	.276	8.528
a. Predictors: (Constant), Pembelajaran Daring				

From Table 3, it can be concluded that the calculation of the coefficient of determination obtained an R Square value of 0.289, which means that students' learning motivation is influenced by online learning by 28.9%, the remaining 71.1% is influenced by other variables.

4. Conclusions

Based on the results of the analysis and discussion of the data, it can be concluded that there is an effect of online learning on students' motivation to learn mathematics on the material of linear equations and inequalities of one variable in class VII at SMP N 3 Bantul. This can be seen from the simple linear regression equation $Y = 24,154 + 0,566 X$ and the close relationship between variable x (online learning) and variable Y (learning motivation) which is 0.537 so it is included in the medium category. And then the contribution of variable X to variable Y can be seen from the coefficient of determination of 28.9 and the remaining 71.1% is influenced by other variables.

Conflicts of Interest: The authors declare no conflict of interest

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