The Effectiveness of Using Blended Learning Methods to Improve Students' Cognitive During a Covid – 19 Pandemic (Field Study: MTsN 3 Jombang)

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ABSTRACT

The presence of the Covid – 19 pandemic has had a very significant impact on several aspects of life, one of which is the education aspect. This study aims to determine which learning is effectively applied during the pandemic, the advantages of using the blended learning method, and what are the results of the application of the blended learning method during the pandemic. The sample in this study was taken from 29 students of class VIII-K. As for the data analysis using the t test (paired), after the t test (paired) a significance value was obtained $0.617 > 0.05$, so there is an average difference between student learning outcomes before the pandemic and during the pandemic.

Keywords: *Effectiveness; Blended Learning; Cognitive; Pandemic*

INTRODUCTION

The presence of the Covid-19 pandemic has had a very significant impact on several aspects of life, one of which is the education aspect. The government has started implementing social or physical distancing policies aimed at reducing the spread of the Covid-19 virus in Indonesia. So this requires the implementation of educational activities carried out online remotely. Learning is no longer carried out through conventional meetings (face to face), but has begun to be integrated online and takes advantage of existing technological developments.

In this pandemic situation, the blended learning method is an alternative way of implementing the teaching and learning process. The blended learning method is a method that uses two approaches at once. In a sense, this method uses an online system through video conferences as well as face-to-face. This model or learning method using blended learning has been around for a long time, but not many of us know and are aware of this method. Blended learning is a combination of two very different learning models, namely the traditional face-to-face model, and the modern technology-based learning model. **(Rini, 2020)**

In Junior High Schools (SMP) / Madrasah Tsanawiyah (MTs), the implementation of activities or teaching and learning processes completely online is a new thing. Several Junior High Schools (SMP) / Madrasah Tsanawiyah (MTs) in Indonesia are used to utilizing the development of communication and information technology in the implementation of learning. From this background the author is interested in conducting research related to the Effectiveness of the Use of Blended Learning Methods at Madrasah Tsanawiyah Negeri 3 Jombang.

METHOD

This research was conducted in class VIII-K MTsN 3 Jombang which is located at Jl. K.H. Abd. Wahab Hasbullah Gg. III Jombang Rice Farms for The 2021/2022 Academic Year. This research was student's daily scores before the pandemic and during the pandemic in Fiqh subjects. The population in this study were students of class VIII-K MTsN 3 Jombang, totaling 29 students. Before the data is collected, the data is analyzed first with the condition that the following tests must be carried out (a) Normality Test. This normality test used was Koimogorov Smirnov. The hypothesis is as follows:

Ho: Data comes from a normally distributed population
Ha: The data comes from a population that this nor normally distributed
(b) Homogeneity Test. A population with the same variance is called a homogeneous population. This homogeneity test uses Levene's test. The hypothesis as follows:
Ho: both groups come from homogeneous population
Ha: both groups come from inhomogeneous population
(c) Hypothesis Testing. This test is used to test the comparative hypothesis of two independent samples when the data is in ordinal form. If in an observation the data is in the form of intervals, then it needs to be converted into ordinal data first. If the data is still in the form of intervals, you can actually use the t-test for testing, but if the t-test assumptions are not met (ex the data must be normal) then this test can be used.

$$t = \frac{\overline{x}_1 - \overline{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} - 2r\left(\frac{s_1}{\sqrt{n_1}}\right)\left(\frac{s_2}{\sqrt{n_2}}\right)}}$$

$\overline{x}_1$: Average pretest learning outcomes
$\overline{x}_2$: Average posttest learning outcomes
s_1^2 : Pretest variance
s_2^2 : Posttest variance
n_1 : The number of students in the pretest
n_2 : The number of students in the posttest

Ho: There is no significant effect on the learning outcomes of Fiqh with the Blended Learning method
Ha: There is significant effect on the learning outcomes of Fiqh with the Blended Learning method

RESULT AND DISCUSSION
Result
Based on the results and data analysis of research that has been carried out class VIII MTsN 3 Jombang with a sample of class VIII-K. Based on the graph made from Microsoft Excel, it can be seen in the graph below:
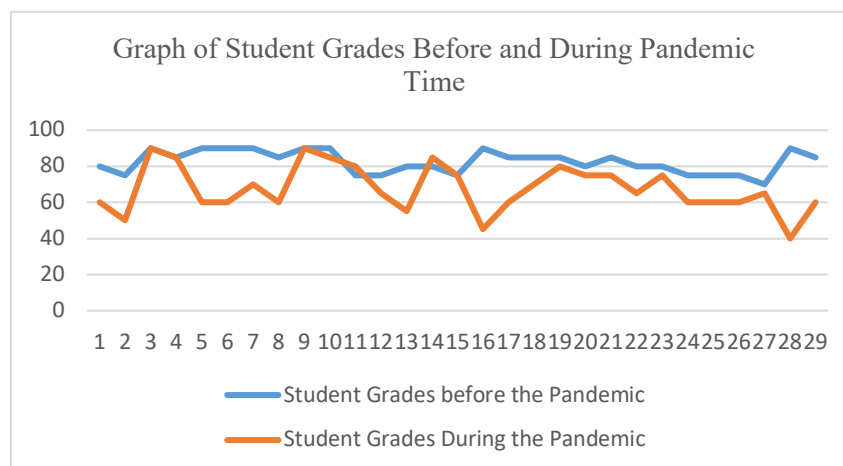

Figure 1. Graph of Class VIII-K Students before and during the pandemic

From Figure 1, it can be seen that there are differences in student scores before and during the pandemic in grades VIII-K. Visually, this shows that the use of the Blended Learning Method is less effective for improving students' cognitive in grades VIII-K as seen from the daily scores of students before the pandemic which was higher than the daily scores of students during the pandemic.

Table 1. Data Normality Test

		Before Pandemic	During Pandemic
N		29	29
Normal	Mean	82.41	67.59
Parameters[a, b]	Std. Deviation	6.214	12.999
Most Extreme	Absolute	.179	.169
Differences	Positive	.159	.169
	Negative	-.179	-.142
Koimogorov - Smirnov Z		.829	.898
Asymp. Sig. (2-tailed)		.478	.364

In table 1 it can be seen that the significance value before the pandemic was $0.478 > 0.05$ and during the pandemic it was $0.364 > 0.05$ so it can be said that the data spread following a normal distribution. The assumption of data normality is met so that paired (dependent) t-test can be used.

Paired t-test (Dependent)

Ho: There is no significant effect on the learning outcomes of Fiqh with the Blended Learning method
Ha: There is significant effect on the learning outcomes of Fiqh with the Blended Learning method

Table 2. Paired Samples Statistics
Paired Sample Test

		Paired Differences					t	df	Sig (2-Tailed)
		Mean	Std. Deviation	Std. Error Mean	99% Confidence Interval of the difference				
					Lower	Upper			
Pair 1	Before Pandemic – During Pandemic	14.828	13.854	2.573	9.558	20.097	5.764	28	.000

In table 2 the average score before the pandemic and during the pandemic shows that the average score before the pandemic is 82.41 while the score during the pandemic is 67.59, there is a decrease in the average score of students. This indicates that the use of the blended learning method is less effective and insignificant to students' understanding. While the results of the analysis using paired t-test get a significant value of $0.617 > 0.05$ so it can be said that there is an average difference between learning outcomes before the pandemic and during the pandemic which means that the use of the Blended Learning method is less effective in improving student learning outcomes in subjects Fiqh during the pandemic.

Discussion

The learning outcomes of class VIII-K student's score before the pandemic period got an average score of 82.41 for the score during the pandemic period it got a score of 67.59. Based on this data, it can be Concluded that using the blended learning method in less effective to be applied to improve student learning outcomes in Fiqh subjects. In table 1 it can be seen that the significance value before the pandemic was $0.478 > 0.05$ and during the assumption of normality of the data is met so that the data spread following a normal distribution. The use of the blended learning method is less effective and significant to students' understanding. While the results of the analysis using paired t-test get a significant value of $0.617 > 0.05$ so it can be said that there is an average difference between learning outcomes before the pandemic and during the pandemic, which means that the use of the Blended Learning method is less effective in improving student learning outcomes during the pandemic.

The results of the calculation of the average score before the pandemic and during the pandemic showed that the average score before the pandemic was 82.41 while the score during the pandemic was 67.59, there was a decrease in the average score of students. This indicates that the use of result of the analysis using paired t-test get a significant value of $0.617 > 0.05$ so it can be said that there is no average difference between learning outcomes before the pandemic and during the pandemic, which means that the

use of the Blended Learning method is less effective in improving student learning outcomes during the pandemic.

The results of the questionnaire show that there are 7 questionnaire statement variables as research material. Form each statement item on each variable, both independent, it turns out that the value of r count is greater than r table, so the data obtained in the field can be declared valid. And it can be concluded that activities using the blended learning method are declared less effective in learning activities because student motivation is reduced because the delivery of material is less than optimal.

CONCLUTION

The conclusion of this study is that the application of the blended learning method during the pandemic in class VIII-K at MTsN 3 Jombang is less effective in improving student learning outcomes in Fiqh subjects. It can be proven by the results of the paired t test that the average score before the pandemic was 82.41 while the score during the pandemic was 67.59, there was a decrease in the average score of students. And based on the results of the questionnaire shows that face-to-face learning activities are more effectively applied to improve student learning outcomes.

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