

The Evaluation of Mathematics Online Learning in Eight Grade Students of SMP Negeri 1 Sipahutar in Academic Year 2021/2022

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Abstract

Learning mathematics in Covid-19 (Corona Virus Disease) learning is very ineffective and cannot meet face to face directly between teachers and students, and other students Therefore, in learning during the COVID-19 pandemic, students are asked to study from home using online methods, namely through social media. This study aims to determine the ease and constraints as well as learning outcomes and the effectiveness of student learning in online learning mathematics for eight grade students of SMP Negeri 1 Sipahutar. Type of research is descriptive qualitative which takes place in SMP Negeri 1 Sipahutar. The data sources used are primary and secondary data sources. The techniques used in data collection are interview methods, observation methods, test methods, and documentation methods. The data analysis technique used is data reduction and data presentation. Based on the learning outcomes and the effectiveness of student learning seen from student learning outcomes tests showed that the percentage of classical learning completeness was 37.5%. Based on these results, mastery learning reaches the criteria of being unfavorable thus it can be concluded that online learning during the COVID-19 pandemic using the WhatsApps application in mathematics learning is not effective.

Keywords— Evaluation, Mathematics, online Learning.

I. INTRODUCTION

Education is an activity that is conscious and intentional and is full of responsibility carried out by adults to children so that interactions arise between the two so that the child reaches the desired maturity and takes place continuously. Education has an important role in advancing the Indonesian nation in the current era of globalization. Education is a process of changing attitudes and behavior of a person or group of people effort to mature humans through teaching and training efforts. Education today is determined by quality human resources. The purpose of education is to educate the life of the nation and to have good character. According to the Surabaya City Dispendik, Supomo (2020) "Current learning due to covid 19 (Corona Virus Disease) is not as effective as learning in class and cannot meet face-to-face between teachers, students and friends." Therefore, due to the COVID-19 pandemic, students are asked to study at home using online social media. So in learning mathematics many students complain are left behind in the subject matter, and cannot do the questions that have been given by the teacher. Because students have difficulty in working on the questions that have been given

by the teacher with social media. In this study the researcher chose the number pattern material on the grounds when the researcher conducted interviews with several students and the students said they were still difficult and confused in determining the number pattern. Therefore researchers need to take the material so that students understand about number patterns as well as the benefits that students get in number pattern material namely increasing students' reasoning power the better students' thinking is more critical and also learning is very important. in the daily life of students environment as well as in the community and their families. Researchers are interested in conducting research related to "Evaluating Mathematics Online Learning. The reason or background behind the researcher choosing this title and choosing the school is that in previous research, there has never been a study that has examined online learning at SMP Negeri 1 Sipahutar. So the researchers intend to research online learning at the school during the covid-19 pandemic.

II. REVIEW OF LITERATURE

Online Learning

Learning is a process of interaction between students and learning resources in a learning environment that includes teachers and students exchanging information. According to the Ministry of National Education, "In Law No. 20 of 2003 concerning National Education Education Article 1 Paragraph 20, learning is a process of interaction between students and educators and learning resources in a learning environment". Learning media are tools, methods, and techniques used in order to make communication and interaction between teachers and students more effective in the education and teaching process in schools. WhatsApp is an application designed to facilitate communication in the midst of current technological developments. WhatsApp is part of social media that makes it easy and allows all users to share information Jumiatmoko (2016), said WhatsApp is an internet-based application that allows each user to share various kinds of content according to the supporting features. WhatsApp is equipped with various features with advantages that can be used to communicate with the help of internet services. The WhatsApp media functions that can be utilized include being able to send messages, chat groups, share photos, videos, and documents.

WhatsApp advantages and disadvantages

Some of the advantages of WhatsApp Media are:

- a. Easy to use
- b. Practical and fast
- c. Save internet data
- d. Can be accessed only with mobile phones and has various features.

The weaknesses of WhatsApp, namely:

- a. The existence of different locations will have different effects on signal strength.
- b. The number of chats that enter the WhatsApp Group result in the cellphone's memory being full, so that the internet connection becomes slow.
- c. Chat that accumulates will be difficult to access because you have to scroll up to be able to follow the course of the discussion.

Ease and Constraints of Online Learning

Ease of use is the degree to which a person believes that the use of a system is not difficult to understand and does not require great effort from the user to be able to use it. The concept of convenience provides an understanding that if a technology is easy to use, then users tend to use the technology. Obstacles according to the Big Indonesian Dictionary defines the notion of obstacles as obstacles, obstacles with conditions that limit, hinder or prevent the achievement of goals. ease and constraints in online learning is an activity that can help easily and have

problems or obstacles to achieve the goals achieved through the process of interaction between students and teachers in a learning environment using electronic technology.

Evaluation of Online Learning for Middle School in Mathematics Subjects

The teacher acts as the spearhead or director of education in charge of preparing an attractive learning environment and facilities that support the development of the potential and morals of students. Learning mathematics as one of the junior high school subjects that has an important role in meeting the needs of students' lives. Junior High School is the initial level to instill concepts for students, so that the concepts received by students are the opening of their thinking power in facing the next level. In accordance with the nature of the subject matter of mathematics is abstract, then learning mathematics must be in accordance with the level of self-development of students. Learning in the midst of the Covid-19 pandemic is a challenge for teachers, students, and also parents. Learning is not done face-to-face makes students required to learn independently. Independent learning that seems forced makes students feel bored quickly and gradually virtual learning becomes reluctant to do students. Exercise is needed to foster the process of student learning independence, namely through positive discipline. According to Hidayat (1986) "effectiveness is a measure that states how far the target (quantity, quality and time) has been achieved where the greater the percentage of targets achieved the higher the effectiveness." Meanwhile Handoko (1997:7) explains that effectiveness is the ability to choose the right goals or the right equipment to achieve the goals set. Effectiveness level of ability to achieve goals appropriately (Devung, 1988:25).

III. RESEARCH METHODOLOGY

The type of research is qualitative research namely data collection in a natural setting, using natural methods and carried out by people or researchers who are naturally interested. The place of this research is in SMP Negeri 1 Sipahutar. The research is carried out after the online based mathematics learning is completed. The reason behind the researchers choosing the SMP Negeri 1 Sipahutar school is based on interviews with schools such as the principal or teachers in the junior high school that apparently there has never been a research that has examined online learning at the school and researchers are easier to research at the school because strategic place close to the city crowd and easy to reach So the researchers intend to research online learning during the covid-19 pandemic.

IV. RESULT AND DISCUSSION

A. The Validity of Test

Table 4.1 The calculation of the validation questions

No	R _{count}	r _{table}	Explanation
1	0,526	0,349	Valid
2	0,53	0,349	Valid
3	0,746	0,349	Valid
4	0,74	0,349	Valid
5	0,614	0,349	Valid

A. The Reability of test

Test reliability is calculated using the formula

Formula
$r_{11} = (k/k-1)(1-\sigma^2b/\sigma^2t)$

Before calculating the reliability of the test, the variance of each question and the total variance were calculated. By using the alpha formula the variance is obtained as follows:

Variance Formula
$\sigma^2 = \frac{\sum x^2 - (\sum x)^2/n}{n}$

Table 4.2 The Calculation of variance

Test	Variance
Formula	$\sigma^2 = \frac{\sum x^2 - (\sum x)^2/n}{n}$
1	0,694
2	0,968
3	1,415
4	0,983
5	1,297
$\sum \sigma^2b =$	5,357
$\sum \sigma^2t =$	10,758
R ₁₁	0,628

B. The Level of Difficulties

Table 4.3 The Calculation of difficulty level

No	B	Js	Difficulty level	Explatio n
1	108	32	3,375	Easy
2	72	32	2,250	Easy

3	78	32	2,438	Easy
4	55	32	1,719	Easy
5	59	32	1,844	Easy

C. The Different of test

Table 4.4 The Calculation of test

No	Ba	Bb	DP	Explanation
1	60	48	0,750	Very Good
2	41	31	0,625	Good
3	53	25	1,750	Very Good
4	39	16	1,438	Very Good
5	38	21	1,063	Very Good

D. The Easy, Constraints and Solutions in Implementation of Online Mathematics Learning in Eight Grade Students of SMP Negeri 1 Sipahutar

Learning activities are not limited by distance, time and place means that wherever they can take part in learning. In evaluating learning assignments the learning outcomes of students can be immediately known, in this case students send answers and then the teacher immediately corrects the answers so that the learning outcomes can be known directly. Meanwhile based on the results of interviews with students the average ease of online learning of mathematics is not having to come to school, In learning process can be accompanied by parents can access the internet network to find answers to questions given by the teacher and have a lot of time with family, Can play mobile phones, play more time, and don't need to get up early Constraints and Solutions for Online Learning Mathematics in eight grade students of SMP Negeri 1 Sipahutar. Based on the results of interviews with mathematics subject teachers the obstacles to online learning mathematics are: In evaluating learning activities teachers must be more focused and thorough because each student sends their answers individually. While in one day of learning there are three lessons students sometimes do not have internet data packages to support learning activities, students find it difficult to understand the material delivered by the teacher through online media, and the teacher cannot explain the material optimally. Meanwhile based on the results of interviews with students the average obstacles in online learning mathematics are students do not have their own cellphones as a facility for online learning activities. Students or parents do not have money to buy internet data packages, difficult to understand the material delivered by teachers via online media, cannot accompanied by parents, and the sometimes unstable internet network can interfere with learning activities.

Solutions to overcome the obstacles faced by teachers and students in online learning mathematics are:

- a. Teachers in evaluating learning activities must be more focused and thorough and every day must recapitulate student values so that mistakes do not occur.
- b. For students who do not have their own cellphones and internet data packages students can join their friends whose houses are closest.
- c. For students who cannot understand the material or questions given they can ask their parents. If you really can't the teacher can help answer student questions by sending answers or instructions for solving the problem.
- d. If parents cannot teach their children to understand the material or solve problems students can ask the people around them or with their friends.

V. DISCUSSION

1. Learning outcomes

The results of observations students ability to work on questions or tests during online-based mathematics learning through the WhatsApp application obtained the lowest student score of 40 and the highest score of 85 students.

Table 4.5 The Student Learning Score

Scores	Students	Categories
85-100	8	Very Good
70-84	4	Good
60-69	9	Fairly Good
50-59	8	Not good
<50	3	Poor Good
	32	

Based on the table above, information is obtained that the number of students in the very good category is 8 students, the score is 70-84 the number of students in the good category is 4 students, the score is 60-69 in the fairly good category as many as 9 students, the value is 50-59 the number of students in the poor category. good as many as 8, the value <50 the number of students in the bad category as many as 3 students,

2. Student Learning Effectiveness

Table 4.6 Learning Outcome Test

Mean Score	65,31
Maximum Score	85
Minimum Score	40
Classical Competence	37,5%

Based on the table above, the average score of students is 65.31, the highest score is 85, the lowest score is 40. From the results of the learning outcomes test, it is known that the percentage of classical completeness is 37.5%. Based on the results mastery learning reaches the criteria of not being good, so it can be concluded that online learning during the covid-19 pandemic using the WatsApps application in learning mathematics is not effective.

VI. CONCLUSION

Based on the results of the data it can be concluded that online learning is learning without face to face directly between teachers and students, but is carried out online or by accessing the internet network by using social media to exchange information and interact using the WhatsApp group application. Ease of online learning, among others, for teachers, student learning outcomes can be known directly learning activities are not limited to distance, time and place, in the learning process can be accompanied by parents, students can access the internet network, students can take advantage of existing media in the surrounding environment, have lots of time with family, can play mobile phones, no need to get up early, and more playing time. While the obstacles experienced by teachers and students include teachers In evaluating learning activities teachers must be more focused and thorough, students do not have their own cellphones, students or parents do not have internet data packages, it is difficult to understand the material delivered by teachers through online media, lack of understanding of people so that they cannot teach their children, the internet network is sometimes unstable. Based on the learning outcomes and the effectiveness of student learning seen from student learning outcomes tests showed that the percentage of classical learning completeness for was 37.5%. Based on the results mastery learning reaches the criteria of being unfavorable, it can be concluded that online learning during the COVID-19 pandemic using the WatsApps application in mathematics learning is not effective.

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