

# Effectiveness of Online Learning in the Covid-19 Pandemic in SMKN 2 Pangkep

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## ABSTRACT

This study aimed to describe the effectiveness of online mathematics learning during the Covid-19 pandemic at SMKN 2 Pangkep. This type of research was a quantitative descriptive approach that focuses on evaluating online learning of mathematics based on student responses. The research population was all students of grade X at SMKN 2 Pangkep who were taught mathematics subjects using online methods. The sampling technique was done through simple random sampling. The data collection technique used a questionnaire in the form of a google form which was distributed online. Data analysis used descriptive statistics. Based on the research results conducted by filling out online questionnaires, 7% of students considered online mathematics learning during the Covid-19 pandemic at SMKN 2 Pangkep to be very effective, and 45.1% rated it effectively. However, 42.3% of students considered online mathematics learning during the Covid-19 pandemic at SMKN 2 Pangkep ineffective; even 5.6% thought it very ineffective. This is because there are many problems during online learning, one of which is an unstable network.

**Keywords:** Mathematics, Online learning, Covid-19.

## 1. INTRODUCTION

The Covid-19 pandemic has changed the way people live in Indonesia. Covid-19 has hindered people from outdoor activities that they did on normal days. The education sector is one of the parts affected by this virus. Due to the Covid-19 pandemic, schools and universities continually search for approaches to build up the teaching and learning process ceaselessly to adapt to the situation [1]. Based on the circular letter of the Ministry of Education and Culture No. 4 of 2020 concerning the Implementation of Educational Policies in the Emergency Period for Corona Virus dissemination, the education unit has decided to WFH (Work from Home) with the online learning process at schools. The Covid-19 has created many challenges and opportunities for the educational institutes to strengthen their technological knowledge and infrastructure [2].

Online learning is education that takes place over the Internet. Teachers and learners do not meet face-to-face, yet they utilize the internet network for the learning process [3]

Online learning allows students to access information flexibly without being limited by time and place [4]. In general, the characteristics of students in every province in Indonesia are "similar" in terms of thinking related to online learning, i.e., millennial students, moreover most students already use the internet as a primary need for learning, so this data has policy implications for higher education in Indonesia during the industrial revolution 4.0 [5].

Online learning has been implemented at SMKN 2 Pangkep since the implementation of Work from Home on March 16, 2020, during the Covid-19 pandemic. This method is expected to improve students' abilities, knowledge, potential, and classroom learning. This online learning is carried out so students can still study without being hindered by time and space restrictions, even during a pandemic.

The implementation of the online learning process has several obstacles. One of the most challenging obstacles to Mathematics learning is teaching mathematics. The current problem shows that there are still many students who consider Mathematics a difficult subject. Therefore, the students dislike and even ignore the subject. Mathematics is not only

about numbers, but it is much deeper than that. Many skills can be developed from learning Mathematics, including problem-solving, Mathematical communication, and Mathematical connections [6].

This study aims to describe the effectiveness of online Mathematics learning during the COVID-19 pandemic at SMKN 2 Pangkep. It also seeks to know the effect of online Mathematics learning at this school by analyzing students' responses.

The learning effectiveness can be measured by identifying the positive response from students towards the learning process. The answer is a topic of a discussion carried out by the student. The response is also an effort to improve the quality of education. The teacher influences the response of students in learning activities. The teacher can attract student responses if the teacher applies a fun learning model. The existence of a good response from students in learning activities will bring effective and conducive learning activities. Giving a response means identifying a reciprocal relationship or expressing differences of opinion by environmental factors or knowledge factors.

**2. METHOD**

This research uses a quantitative descriptive approach that focuses on evaluating online Mathematics learning based on student responses. The research population was all students of 10<sup>th</sup> grade of SMKN 2 Pangkep in the even semester who were taught Mathematics subjects using the online method. The samples that became the respondent of this study were 71 students from class the 10<sup>th</sup> grade of TKR 2 and 10<sup>th</sup> grade of Fashion Major 1 of SMKN 2 Pangkep who were selected using a simple random sampling technique. The researcher's data collection instrument employed a questionnaire distributed in a google form and distributed online. Data analysis used descriptive statistics in which the researcher calculated the percentage of answers to each question item on the google form.

**3. RESULT AND DISCUSSION**

Based on the results of the questionnaire responses given via google form with the following address: <https://forms.gle/GsKbcf6kaboNbgEW9>, we found out:

**3.1. Sample Characteristics**

The number of respondents in this study was 71 students consisting of 35 people, or about 49.3%

were female, and 36 people or about 50.7% were

**Table 3.** Availability of online learning support facilities

I have adequate facilities (computer, laptop, or smartphone) and internet access	
Totally Disagree	0 %
Disagree	26,8 %
Agree	63,3 %
Totally Agree	9,9 %

males.

**3.2. Student Responses to Mathematics Subject**

**Table 1.** Student Responses to Mathematics Lessons

I like Mathematics	
Totally Disagree	0 %
Disagree	1,4 %
Agree	70,4 %
Totally Agree	28,2 %

Based on the table above, 1.4% or 1 student disagrees with the statement "I like Mathematics," which means that these students are not happy with Mathematics. The student considers Mathematics as the most tedious and challenging subject. However, about 70.4% or 50 students are happy with Mathematics lessons, even around 28.2% or 20 students are very happy with this lesson.

**3.3. Students' readiness towards the implementation of online Mathematics learning**

Online learning at SMKN 2 Pangkep began on March 16, 2020. The learning process usually carried out at school with teachers and friends cannot be carried out due to the Covid-19 pandemic. Students are required to study from home.

**Table 2.** Students' readiness towards the implementation of online Mathematics learning

Categories	Percentages
Totally Disagree	7,0 %
Disagree	12,7 %
Agree	53,5 %
Totally Agree	26,8 %

Based on table 2, 7.0% strongly disagree with the statement "I am more than ready to join online Mathematics learning at SMKN2 Pangkep", this

means they are not very ready to take online learning, 12.7% are not prepared to take online learning, as many as 53.5% ready and 26.8% very prepared to join online learning.

**3.4. The Availability of online learning support facilities**

In supporting the implementation of the online learning system, adequate facilities are needed. Rahayu's research [7] reveals that the availability of facilities such as mobile phones, laptops or computers, tablets, and internet network connections is an important requirement for carrying out online learning. Supporting infrastructure is a place at students' homes because learning is conducted from home. Therefore, during the Covid-19 pandemic, online learning needs adequate infrastructure to ensure the learning process runs efficiently.

Based on Table 3, we can conclude that 26.8% or 19 students do not have adequate facilities (computer, laptop, or smartphone) and internet access. They complained about the difficulty of participating in online learning because their cellphones were slow and the internet network was unstable. However, 9.9% or 7 students have adequate facilities and internet not to experience significant obstacles in participating in the learning process.

**3.5. Student Responses to online Mathematics learning**

**Table 4.** Student Responses to online Mathematics learning

I have difficulty understanding Math with online learning	
Totally Disagree	4,2 %
Disagree	5,6 %
Agree	60,6 %
Totally Agree	29,6 %
I am happy with the online learning that is carried out in the mathematics learning process.	
Totally Disagree	5,6 %
Disagree	35,3 %
Agree	52,1 %
Totally Agree	7,0 %
I prefer to learn Math online rather than learning in person at school	
Totally Disagree	22,5 %
Disagree	46,6 %
Agree	23,9 %
Totally Agree	7,0 %

So far, Mathematics is one of the subjects that is considered a scourge for students. With ordinary face-to-face learning, many students have difficulty,

especially if it is carried out online. Based on table 4, 29.6% or 21 students have difficulty understanding Math material online. They have difficulty understanding symbols and using concepts in solving problems. Due to the limited internet data and unstable networks, they have difficulty accessing the learning videos distributed by teachers. Apart from these obstacles, 7.0% or 5 students are very happy with online learning carried out in the mathematics learning process. They even strongly agree if Mathematics learning is carried out online rather than direct learning at school. However, 22.5% or 16 students strongly disagree if Math lessons are carried out online, they miss face-to-face lessons at school and think that it will be easier to understand Math lessons if they meet in person with the teacher.

The results of P S Balkist and N Agustiani [8] show that students were enthusiastic about learning online and were good enough in the timeliness of the task and the accuracy of the content. However, enthusiasm, timeliness, and accuracy of content decreased over time because it lacks direct interaction and innovation of media online learning.

**3.6. Assessment of the Effectiveness of Online Mathematics Learning**

**Table 5.** Assessment of the Effectiveness of Mathematics Online Learning

For me, the implementation of online Mathematics learning during the Covid-19 pandemic at SMKN2 Pangkep is...	
Very ineffective	5,6 %
Ineffective	42,3 %
Effective	45,1 %
Very effective	7,0 %

The implementation of online Mathematics learning has been going on since 2020 as an effect of the Covid-19 pandemic. Based on table 5, 7% of students rated online Mathematics learning during the Covid-19 pandemic at SMKN 2 Pangkep as very effective, and 45.1% rated it effectively. However, 42.3% of students considered online learning of Mathematics during the Covid-19 pandemic at SMKN 2 Pangkep to be ineffective, even 5.6% of students considered it very ineffective. This is because there are several obstacles faced during online learning.

The results of Mustakim's research [9] reveal that online media in online learning allows students to have high enthusiasm for learning and doing assignments. Therefore, a teacher is required to be

creative in creating fun online learning by utilizing online media. Therefore, students have high interest and motivation in participating in online learning.

### ***3.7. Constraints faced when learning Mathematics online***

Students face several constraints during online learning, such as the unstable internet network and limited internet data, so that students have difficulty accessing the learning videos distributed by the teacher. There are too many assignments, and the students find it challenging to understand the material because it is not explained directly. More students feel happy with face-to-face learning instead.

The results showed that the constraints experienced by teachers, students, and parents in implementing online learning during the Covid-19 pandemic include limited internet quota, network disruption internet, students without cellphones, lack of student attention, disturbed parents' work, and teachers' difficulty in using technology and designing engaging online learning. This study suggests teachers increase their skill for online learning, and government support the internet for online learning.

### ***3.8. Suggestions for more effective Mathematics learning***

From the distributed questionnaires, there are several suggestions given by respondents. In the hope that online Mathematics learning will be much more effective in the future, namely: the learning process is conducted through zoom application, the teacher is expected to level up the video explanations of material and sample questions, the teacher should provide short and easy-to-understand explanations, and last but not least, the teacher should try to understand students who are late in submitting assignments and also reducing the number of assignments.

## **4. CONCLUSIONS**

Online learning at SMKN 2 Pangkep began on March 16, 2020. The learning process usually carried out at school with teachers and friends cannot be carried out due to the Covid-19 pandemic. Students are required to study from home. Students considered online Mathematics learning during the Covid-19 pandemic at SMKN 2 Pangkep to be very effective, and 45.1% rated it effectively. However, 42.3% of students considered online learning of Mathematics during the Covid-19 pandemic at SMKN 2 Pangkep

to be ineffective, even 5.6% of students considered it very ineffective. This is because several obstacles are encountered during online learning, one of which is an unstable network. For a better online learning experience in the future, teachers are expected to pay attention and apply the suggestions given by students, namely: learning is conducted through zoom application, multiplying video explanations of material and sample questions, providing brief and easy-to-understand explanations, understanding students who are late in submitting the tasks and the last one is reducing the number of assignments if possible.

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