
Mathematic Teachers And Online Learning In The Covid-19 Pandemic: A Survey Study

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Abstract

The COVID-19 pandemic has had an impact on changes in the implementation of learning. Face-to-face learning before the COVID-19 pandemic turned into online learning during the COVID-19 pandemic. The purpose of this study was to describe the teacher's responses and reasons regarding the implementation of online learning during the covid-19 pandemic. The study was carried out at SMKN Pakong involving five mathematics teachers as informants. Data was collected by interview and continued by analysis. The results of this study include: (1) Teachers more often use WhatsApp application in online learning, because the students are familiar with the use of this application, (2) Teachers prefer to carry out face-to-face learning rather than online learning. It is related to students' character building and students can be directly monitored by the teachers. (3) The arrangements that must be prepared before online learning are the teachers arrange the necessary equipment such as preparing communication tools, internet quota, ensuring the availability of signals and electricity, preparing materials, power points, learning videos and the examples of the video, (4) Students more understand the subject matter in face-to-face learning, because teachers can immediately correct conceptual errors made by students, (5) Most of the teachers are enjoy in using the lecture method and face-to-face learning, but there are also teachers who prefer to use case study learning and learning using the Problem Based Learning (PBL) model.

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

INTRODUCTION

COVID-19 transmission has had a significant impact on alterations in the order of all lines in all countries throughout the world. Our country is also feeling the effects of this transition (Indonesia). The Indonesian government has implemented a number of policies and legislation to combat the spread of COVID-19. During the COVID-19 pandemic, one of the guidelines followed by the Indonesian government was the implementation of a lockdown, followed by social and physical distancing. The goal of the government's policy is to protect the public, specifically to limit the spread of COVID-19 in the community. The application of this rule, on the other hand, has an impact on all government activities as well as community activities.

Learning activities in schools are one of the activities that are impacted. Learning is a teaching and learning process that takes place in the classroom or outside of it, and it is carried out by teachers and students. According to Aswat, et al. (2020), learning occurs when teachers and students engage. This learning activity has the potential to determine student success and achievement of teacher-designed learning objectives. The COVID-19 pandemic has impeded classroom learning. Before the covid 19 pandemic, learning was normally done face-to-face in the classroom or offline, but now it must be done by online during the pandemic. During the Covid 19 epidemic, learning must continue to be done in accordance with government standards, such as replacing offline learning with online learning (Marwanto, 2021).

Distance learning that is carried out online using a laptop or computer, as well as Android and supplemented by an application, is known as online learning (learning in the network). Distance learning using the internet and mobile phones and computers is known as online learning (Putria, et al. 2020). Teachers have become proficient in the use of computers, cell phones/androids, and a variety of programs as a result of online or online learning. Zoommeeting, Google Drive, Google Classroom, Skype, WhatsApp, Googlemeeting, and more applications can be used. Online learning can employ the WA application, Google Form, Google Drive, Google Classroom, Youtube, Tuweb, and Zoommeeting, according to Anugrahana (2020). The availability of multiple applications aids teachers in ongoing to teach.

Teachers are always challenged to go outside the box when it comes to teaching. Because teachers have a responsibility to instill in their students a sense of intelligence and superiority. Teachers are in the vanguard of developing high-quality human resources to compete in the future, both on a national and worldwide levels (Putria, et al. 2020). Teachers are persons who directly impart knowledge and good/positive qualities to students (moral instillation).

The relevance of teachers as educators, as well as the use of online learning during the COVID-19 pandemic, has piqued the interest of education observers, including lecturers, researchers, and students, who want to do research. According to the study's findings, even in the midst of the COVID-19 pandemic, teachers continued to teach through online learning (Anugrahana, 2020). Educators are well-versed in the implementation of online learning (Samoling, et al. 2021). Teachers and students are expected to enhance their knowledge of technology changes, and teachers and students are continuing to engage in online learning (Gunandi, et al. 2021). Teachers that employ technology to facilitate online learning face numerous challenges (Hidayah, et. al. 2020). Teachers favor learning that takes place offline or face-to-face because it allows them to interact with students directly (Pratama & Mulyati, 2020).

Teachers' routines include online learning, information transfer, and establishing positive values in their students. This is also the routine followed by the teachers at SMKN Pakong, including the mathematics teachers. During the COVID-19 pandemic, the mathematics teachers at SMKN Pakong used online learning as well. They used online learning in a similar way as teachers in other schools. According to one of the mathematics teachers at SMKN Pakong, the mathematics teachers have employed numerous applications such as WhatsApp, Zoommeeting, and others for online learning. Online learning conducted by mathematics teachers utilizing applications is considered to be of high quality.

Based on the above review, researchers are interested in conducting survey research at SMKN Pakong. This survey research is specifically aimed at mathematics teachers. This research takes on the role of enriching research on the responses and reasons of mathematics teachers in online learning during the Covid-19 pandemic.

RESEARCH METHODS

This type of the study is a qualitative research using a survey method. The purpose of this study was to describe the teacher's responses and reasons regarding the implementation of online learning during the Covid-19 pandemic. This study was conducted at SMKN Pakong Pamekasan. Five mathematics teachers were used as informants in this investigation (T1-T5). Applications utilized in online learning, preferred learning, preparations done when carrying out online learning, mastery of student subject matter, and approaches or models that are frequently employed were among the data retrieved. An interview was used to collect data, which was guided by an interview sheet guide. The researcher questioned five teachers, one by one, until all of their inquiries were addressed. On the basis of information provided by informants, a qualitative data analysis was conducted.

RESULTS AND DISCUSSION

The implementation of this study began with interviews with five mathematics teachers, four male and one female. The interview took place in a casual and informal setting. The researcher used an interview sheet guide during the interview so that the implementation remained focused and the research objectives could be achieved as expected. The interview's mood is depicted in Figure 1 below.



Figure 1. The atmosphere of the interview with the mathematics teacher

During the interview, the researcher (R) asked the teacher (T) five questions on the implementation of mathematics learning that took place online at SMKN Pakong during the COVID-19 epidemic. The following dialogue contains extracts from the interview questions.

- Q.1 R What application do you often use when conducting online learning? and what is the reason, explain!
- T1 WA group, because students are familiar with using this application.
- T2 WA group, students do not get problems in using this WA application because they are familiar with using it.
- T3 Google classroom, and WA. Easy to use
- T4 WA and Zoom, because it is more possible for students to do and use it
- T5 WA and Google Classroom, because students are easy to use.
- Q.2 R If you could choose in teaching, would you prefer to teach online or offline? Explain why!
- T1 Offline, because teaching is not only transferring knowledge but also morality, and this is more important.
- T2 Offline, because with offline learning, students are easy to be supervised, we can meet directly with the students and they can't excuse not having a

- internet quota, so that learning is achieved effectively.
- T3 Offline (with a smile)
- T4 Online for materials in the form of theories.
- Offline for practical materials.
- T5 Online (smiling and joking)
- Q.3 R When you want to teach mathematics by online, what should you prepare?
Explain!
- T1 Prepare the communication tools that will be used and ensure the applications used can work properly.
- T2 Prepare learning videos with their examples
- T3 Kuota internet, materi pelajaran, Power poin, dan contoh-contoh soal
Internet quota, subject matter, power points, and sample questions
- T4 Learning applications, materials that can be uploaded or presented so that students can see visually.
- T5 Internet quota, signal and electricity.
- Q.4 R Based on the facts at your school, Do students gain a better understanding of the subject matter if they are taught online or offline?? Please explain!
- T1 Offline, because with offline learning the teacher can immediately correct the conceptual errors made by the students.
- T2 Offline, because if students don't understand, they can directly ask to the teacher.
- T3 Offline, because the explanation from the teacher is broader and can be accepted by students.
- T4 Offline, because students still need teacher guidance in understanding the material and they cannot learn independently
- T5 Offline (smiling)
- Q.5 R As a mathematics teacher, in teaching in class (face-to-face learning) what kind of learning model, strategy, or method are you going to do? Explain!
- T1 Lecture method
- T2 face-to-face learning, because in mathematics there are more concepts.
- T3 Lecture method, and Problem Base Learning
- T4 Case study learning, because students can directly practice solving real problems using existing methods.
- T5 Face-to-face learning, (continued with a smile).

The COVID-19 pandemic has caused modifications in how learning is implemented. Before the pandemic, teachers in SMKN Pakong, particularly mathematics teachers, taught face-to-face or offline mathematics lessons. However, during the pandemic, learning was done online. As a result of the shift in learning methods, math teachers now have to know how to use laptops, PCs, and smart phones. Furthermore, the teachers are adept in the usage of online learning programs such as WhatsApp. Others include Zoommeeting, Google Drive, and Google Classrome.

According to the findings of the study, the mathematics teacher at SMKN Pakong prefers to use the WhatsApp application for online learning. The adoption of this program is due to the fact that students are familiar with and used to using WhatsApp. Teachers in Bantul,

Yogyakarta, and other parts of Indonesia choose WhatsApp as their first choice in online learning (Anugrahana, 2020). WhatsApp is the preferred method of communication in online learning since it is simple to use, send resources and questions, and is efficient and effective.

Math teachers expect that through applying mathematics instruction, students will be able to learn face-to-face as soon as possible (offline). Teaching is not only conveying knowledge, but also imparting morality, which is much more vital. Furthermore, offline learning allows for easy monitoring of student progress, allowing for more effective learning. Mathematics is not the same as studying the social sciences. Learning mathematics necessitates the mastery of concepts that are inextricably linked. Students must first comprehend the prior topic before moving on to the next, which entails progressing from simple to complicated concepts (Imamuddin, 2020). For this reason, learning mathematics is done as much as feasible offline in order for the learning to be meaningful for students. Furthermore, face-to-face learning can help students develop their cooperative skills in groups. Working together to complete student assignments, as explained by Imamuddin (2013), can help students develop teamwork skills. Students who learn face-to-face by forming study groups will be able to develop as persons who are capable of working together.

Teachers must make preparations in order to implement good and effective learning. According to Imamuddin & Isnaniah, (2022), a teacher must plan carefully in order to provide high-quality instruction. As a result, mathematics teachers at SMKN Pakong make preparations such as ensuring internet quota, preparing and ensuring that a laptop or Android can be used, preparing learning videos, materials, power points, and examples, and last but not least ensuring that the electricity is on and the signal is strong when conducting good and effective online learning. It will be easier to meet the learning objectives that have been set if you prepare well for online learning.

Offline learning is learning that is highly desired by all teachers and students throughout Indonesia and even in the world. The math teacher at SMKN Pakong is no exception, they also expect the same thing. This is very reasonable, because offline learning is more effective in instilling an understanding of mathematical concepts for students. When offline learning takes place, if there are students who do not understand, the teacher can easily guide and explain directly in front of students. Teachers can also explain the material as widely as possible directly in front of students, and students are more focused on understanding the subject matter.

Teachers frequently employ the lecture technique when teaching offline. Case study learning and learning with Problem Based Learning (PBL) learning methodologies are very popular among teachers. Students' conceptual capacities are greatly improved by the Problem Based Learning technique (Imamuddin, et al. 2019). Mathematics teachers at SMKN Pakong believe that this learning technique and model is more effective in learning mathematics that is identical to concepts ranging from simple to complicated.

The COVID-19 pandemic has played an important role in improving the ability of mathematics teachers at SMKN Pakong in using technology tools such as laptops and androids. In addition, it is also able to increase the ability to use applications such as WhatsApp, Zoommeeting, Google Drive, Google Classroom and others.

CONCLUSION

The COVID-19 pandemic has prompted math teachers and students at SMKN Pakong to engage in online learning. The study's findings are as follows: 1. Teachers utilize the WhatsApp application more frequently when conducting online learning; this is due to the fact that students are familiar with and used to using it. 2. Teachers prefer offline learning to online learning for a variety of reasons, including building character in pupils and the ability to directly assess students' learning. 3. Teachers must arrange the appropriate equipment before doing online learning, such as communication tools, internet quotas, assuring the availability of signals and electricity, preparing materials, power points, learning videos and the examples of videos. 4. When students learn face-to-face or offline, they master the subject matter better because the teacher can directly guide and correct conceptual errors produced by students, and teacher explanations can be broad, making it simpler for students to understand fast. 5. Teachers are more likely to use the lecture technique, as well as direct and face-to-face learning; nevertheless, some teachers prefer case study learning and the Problem-Based Learning (PBL) learning model. This method and model is considered the most effective by the teacher to deliver mathematics material to students with requirements from simple concepts to complex concepts. Researchers predict that in the future there will be many developments of material, practice book, and learning media made by teachers using various applications.

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