The Use of Microsoft Office 365 In Mathematics Learning During The COVID-19 Pandemic

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Abstract. The Covid-19 virus is currently sweeping the world, including Indonesia. The COVID-19 pandemic has changed various aspects of human life today, especially in the world of education. This requires all elements of education to be able to adapt in the process of learning activities. One of the effective solutions in implementing learning during this pademic period is online learning. Online learning is carried out to activate classes even though schools have been closed considering the time and place they are at risk during this pandemic. The teaching and learning process which is usually done face-to-face in the classroom must now be done through distance learning. This is done to support the government's efforts to reduce the rate of spread of the COVID-19 virus. The government has established policies for studying from home, working from home, and praying at home, for this reason this policy must really be implemented by the entire community. The learning process from home can be done through online or distance learning with the use of information and communication technology, one of which is the use of Microsoft Office 365. This study aims to determine how the use of Microsoft Office 365 in learning mathematics during the COVID-19 pandemic, so the results of this study It can be used by teachers as a reference in the use of media for online mathematics learning and teachers become more concerned about the various obstacles experienced by students. The method used in this research is literature study, which examines relevant previous studies and concludes based on the results obtained. The results of this study indicate that there are several obstacles experienced by teachers and students in the use of Microsoft Office 365, namely bad signals, servers down and difficult to access, additional internet quota costs, unlimited teaching hours, lack of communication and socialization between teachers and students, mastery in Microsoft Office 365 usage which is still low. In addition, the use of Microsoft Office 365 learning activities can be varied by using the features provided, such as conducting video conferencing, holding online quizzes, giving assignments, there is also a whiteboard application that can be used when learning with video conferencing via Microsoft Teams, especially in learning mathematics, so that the learning carried out is not much different from face-to-face learning in the classroom, it's just that it is implemented in a different room and virtual. There are still a lot of features in Microsoft Office 365 that can be used in the learning process, so that learning activities are not boring. Then it can reduce costs (fees) for out-of-town teachers and teaching time to be flexibility, making it easier to update teaching materials and check assignments. So it can be concluded that the Covid 19 pandemic has had various impacts on the use of Microsoft Office 365 in learning mathematics.

Keywords: Pandemic COVID-19, Microsoft Office 365, online learning

Abbreviations: COVID-19

Running Title: Mathematics Learning During The COVID-19 Pandemic

INTRODUCTION

The spread of the Corona virus in Indonesia has caused the government to issue new policies related to the implementation of activities in society, including in the field of education. One of these policies is listed in the circular letter of the Minister of Education and Culture of the Republic of Indonesia Number 4 of 2020 concerning the Implementation of Education Policies in an Emergency for the Spread of Corona Virus Disease (COVID-19). The circular contains instructions for the learning process to be carried out online or remotely.

Online distance learning does not mean giving a lot of tasks to students, but carrying out effective and meaningful learning activities for students according to the regional conditions of each school (Ade Erlangga Masdiana, 2020). Of course, the teacher's creativity is needed in presenting the material so that learning activities can be carried out properly. In implementing online learning, it is necessary to coordinate between teachers and parents of students through video calls or photos to ensure interaction (Taryono, 2020). This is because the teacher cannot directly monitor and condition students. Online learning causes interaction between teachers and students not face-to-face, but virtual face-to-face. Therefore, it is necessary to have applications that can support learning activities during the Covid-19 pandemic.

One of the applications that can be used in the implementation of online teaching and learning is Microsoft Office 365. The Microsoft 365 application is software created by Microsoft for the needs of users in offices, businesses and online education. Especially in the world of education, Microsoft provides it for free to Office 365 users and with some of the features it has, it can be used as e-learning (Suprianto, 2018). This application provides various features that can make it easier for teachers and students in the learning process. One of the features that can be used to support learning is Teams. In this feature, the teacher can create a class that will be used in the learning process. The class created can be filled with a list of student names from the school information system, sharing files and learning materials, making announcements, dividing the class into project groups and monitoring their progress, creating quizzes, and sharing, collecting, and assessing assignments quickly and efficiently. In Teams, teachers can do video conferencing with students via the meeting menu. In the meeting view, it is equipped with a whiteboard which is very useful for teachers in explaining lessons, especially in mathematics lessons.

For this reason, this study aims to determine the benefits, impacts, and constraints of using Microsoft Office

365 for both teachers and schools. In addition, this research is useful as a reference for teachers in choosing applications that can support creative and innovative online learning activities, media use. for online mathematics learning and teachers become more concerned about the various obstacles experienced by students. Then, it becomes one of the foundations for the school, especially teachers, to design learning so that it can be carried out effectively and students can experience fun and meaningful learning.

MATERIALS AND METHODS
Procedures

The method used in this research is the study of literature, namely by reviewing relevant previous studies and concluding based on the results obtained. The process of selecting literature is carried out with 4 procedures according to Taylor. These procedures are, (1) *Organize*, organize literature that will be reviewed / reviewed relevant / in accordance with the problem. The stage in organizing literature is to look for ideas, an overview, and conclusions from the literature by reading abstracts, introductory paragraphs, and conclusions, and grouping the literature according to certain categories; (2) *Synthesize*, which unites the results of the organization of literature into a summary in order to become a unified unity, by looking for connections between literatue; (3) *Identify*, i.e. identify controversy issues in the literature which are considered very important to be analyzed in order to find an interesting writing to read; and (4) *Formulate,* namely formulating questions that require further research.

RESULTS AND DISCUSSION
The Covid-19 Pandemic

COVID-19 (Coronavirus Disease 2019) is a large family of viruses that cause disease in humans and animals. In humans, it usually causes respiratory infections, from the common cold to serious illnesses such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). A new type of coronavirus that was discovered in humans since the outbreak occurred in Wuhan China, in December 2019, was then named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV2), and causes Coronavirus Disease-2019 (COVID-19), (*https://covid19.kemkes.go.id).*

According to (Ministry of Home Affairs, 2020) several things that must be done in order to prevent this virus, namely performing hand hygiene using a hand sanitizer if the hands do not look dirty or washing hands with soap if the hands look dirty, avoiding touching the eyes, nose and mouth, applying cough etiquette or sneezing by covering the nose and mouth with the inner upper arm or tissue, then throwing the tissue in the trash, wearing a medical mask if you have respiratory symptoms and doing hand hygiene after throwing out the mask, keeping a distance (at least 1 m) from people experiencing symptoms of the disorder

respiration (Ministry, 2020).

The impact of the COVID-19 caused the economy in Indonesia to decline, dropped the rupiah exchange rate, and the prices of goods rose, especially medical devices. Extreme countermeasures such as Lockdown in an area and even a country are carried out in an effort to minimize the spread of the disease (Zahrotunni'mah, 2020: 248). According to Hongyue and Rajib (in Ginting: 2020), the impact of a pandemic on the economy, social, security and politics will affect psychological conditions and behavior changes that are broader in a longer period of time. These behavioral changes include healthy lifestyle behavior, behavior using technology, behavior in education, behavior using social media, consumptive behavior, work behavior, and socio-religious behavior. The use of technology, which had previously been mainly used as a secondary work support or even for recreation, has turned into a primary work facility. This also has an impact on the education system in Indonesia. The result of the decision from the minister of education that all learning activities both in schools and colleges are carried out in their respective homes through the available application. The Minister of Education issued Circular Number 3 of 2020 concerning the Prevention of Corona Virus Disease (COVID-l9) in the Education Unit which states that schools and colleges are closed (Kemdikbud, 2020).

Distance Learning Online

The COVID-19 pandemic has changed various aspects of human life today, especially in the world of education. The COVID-19 epidemic urges distance education testing that has never been carried out simultaneously before (Sun et al., 2020) for all elements of education, namely students, teachers to parents. Given that during the pandemic, time, location and distance were major problems today (Kusuma & Hamidah, 2020). This requires all elements of education to be able to adapt in the process of learning activities. One of the effective solutions to overcome difficulties in implementing face-to-face learning in the implementation of learning during this pademic period is online distance learning.

Online learning is defined as a knowledge transfer experience using video, audio, images, text communication, software (Basilaia & Kvavadze, 2020) and with internet network support (Zhu & Liu, 2020). This is a modification of knowledge transfer through website forums (Basilaia & Kvavadze, 2020) and digital technology trends as a hallmark of the 4.0 industrial revolution to support learning during the COVID-19 pandemic. Online learning is carried out to activate classes even though schools have been closed considering the time and place they are at risk during this pandemic. The teaching and learning process which is usually done face-to-face in the classroom must now be done through distance learning or online. This is done to support the government's efforts in reducing the rate of spread of the COVID-19 virus and learning activities can still be carried out, given that education is one of the most important aspects in the progress of a country.

The health crisis caused by the COVID-19 outbreak has spearheaded online learning simultaneously. Teachers and educators as important elements in teaching are required to undertake an unprecedented massive migration from traditional face-to-face education to online education or distance education (Bao, 2020; Basilaia & Kvavadze, 2020). Of course, it must be supported by increasingly sophisticated technological developments so that it is expected to be able to solve the problems of students in obtaining knowledge. The current condition is urgent for innovation and adaptation related to the use of available technology to support the learning process (Ahmed et al., 2020). Online learning can take advantage of platforms in the form of applications, websites, social networks and learning management systems (Gunawan et al., 2020). Various platforms that support online learning such as E-Learning, Moodle, LMS, Be-Smart, Google Classroom, Whatsapp, Microsoft Office 365, Smart Class, Zenius, Quipper, Edmodo, and many other platforms.

Take advantage of *Microsoft Office 365*

Microsoft Office 365 is an online software created by Microsoft for the needs of users in offices, business and education. Especially in the world of Microsoft education, with some of its features, it can be used as e-learning. Thus, the use of Microsoft Office 365 as e-learning can be done by anyone, anywhere and at any time and of course by educators who are able and good at using Microsoft Office 365. Microsoft Office 365 does not only consist of Microsoft Word, PowerPoint, and Excel. online only, but more than that. Microsoft Office 365 is a cloud computing application designed to support communication and collaboration needs. Distance learning groups can be created using Outlook which is a Microsoft Office 365 package. Within this group all distance learning activities are carried out starting from collaborative activities, communication using chat, audio and video, online attendance, online examinations, distance learning, and materials. course material and online assignment sheets. Communication via video conference can be done via the Teams application. Online attendance takes advantage of forms where the attendance file link will be shared first, then students fill in the attendance identity. Online exams use the forms application in the Microsoft Office 365 package. Online exams are carried out with various arrangements including online exam timing, setting questions and exam scores and other arrangements that make it easy for students and teachers to administer exams. In the online exam results, online test scores are seen directly through the computers of each student and teacher. With Teams online learning can be done by bringing together conversation, content and applications in one place. Enable teachers to create more creative learning by building collaborative classrooms, connecting in professional learning communities, and connecting with educator colleagues all on one page.

The use of the Microsoft Office 365 application in learning is one way that can be used with the aim of increasing the effectiveness of distance learning during the Covid-19 pandemic. This application provides facilities to students in learning and trains students' mastery of using multimedia. Based on research conducted by Lukas Nasution before, it was found that learning outcomes increased after learning was carried out using one of the Microsoft Office applications, namely the Microsoft Office PowerPoint application. In this study, it was found that the use of Microsoft Office was able to streamline the teaching and learning process with a percentage of 100% while in the control class the percentage of learning effectiveness was 86.48%. It is hoped that the use of Microsoft office applications can make the learning process more interesting and the material presented can be well received by students.

With the use of Microsoft Office 365 learning activities can be varied by using the features provided, such as conducting video conferencing, holding online quizzes, giving assignments, there is also a whiteboard application that can be used when learning with video conferencing via Microsoft Teams, especially in learning mathematics, so the learning that is carried out is not much different from face-to-face learning in the classroom, it's just that it is implemented in a different room and virtual. There are still a lot of features in Microsoft Office 365 that can be used in the learning process, so that learning activities are not boring. Then it can reduce costs (fees) for out-of-town teachers and teaching time to be flexibility, making it easier to update teaching materials and check assignments.

Behind the many benefits obtained, of course it has various obstacles that are felt by educators and students in online learning. The constraints faced are the various regional conditions in Indonesia, which means that not all areas are covered by internet services and the distribution of internet networks is slow at times (Khasanah et al., 2020). This also allows high internet usage to have an effect on the health of students. Another obstacle that was found was the ability of parents to provide online educational facilities (Obiakor & Adeniran, 2020) such as the use of the internet network which requires money (Jones & Sharma, 2019; Purwanto et al., 2020). In addition, some of the obstacles experienced by teachers and students in the use of Microsoft Office 365, namely bad signals, server down and difficult to access, additional internet quota costs, unlimited teaching hours, lack of communication and socialization between teachers and students, mastery in using Microsoft Office 365 which is still low.

CONCLUSION

Online learning using Microsoft Office 365 has various impacts on all elements of education, both teachers, students and parents in learning mathematics. The use of Microsoft Office 365 in mathematics learning greatly helps teachers and students to carry out the online learning process because there are many features provided in the software that support learning activities so that the learning process is more varied, interactive, and not monotonous. On the other hand, there are obstacles that are felt by educators and students in using the Microsoft Office 365 application

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for distance or online learning during the Covid-19 pandemic. The obstacles that often arise are related to the connection and availability of internet quotas, so that teachers can better understand and care about the various obstacles experienced by students. The benefits and constraints experienced when using Microsoft Office 365 in the mathematics learning process can certainly be one of the foundations for schools, especially teachers, to design learning so that it can be carried out effectively and students can experience fun and meaningful learning.

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