

Technologies Utilization for Education Strategic Management in Social Distancing Era: A Literature Review

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Abstract

The background of this research is widespread in Covid-19 in Indonesia and takes many casualties. One of the government's efforts to reduce the spread of the virus is to create policies for students and students throughout Indonesia to study at home. To keep the material delivered and the learning process is not interrupted by the condition, distance learning is carried out through online learning. This research aims to find out the extent to which the application of online learning impacts the independence of student learning during the implementation distance learning. This article uses a qualitative approach in the form of literature. Sources of research data are 41 literature sourced from scientific articles journals about online learning during the COVID-19 period. Data analysis was carried out using the Microsoft Excel application. The results of data analysis of 41 articles obtained 39% for journals which stated that online learning had a negative impact and 61% for a positive impact. Therefore, online learning is feasible, but not by giving very many assignments with short collections, it can be replaced with joint discussions because it can support learning effectiveness and focus on learning. The use of learning media technology in the era of social distancing mostly uses whatsapp and zoom meetings.

Keywords

technologies; online learning;
social distancing; academic
achievement



I. Introduction

The corona virus or COVID-19 first appeared or was discovered in the city of Wuhan, China at the end of 2019. This virus has not yet found an antidote until now it is out of control. More than 200 countries in the world have reported cases of the coronavirus (Yunita, 2020). The COVID-19 pandemic is a heartbreaking disaster for the entire population of the earth. All human life on earth is disturbed, without exception education. Many countries have decided to close schools, colleges and universities, including Indonesia (Syah, 2020). Coronaviruses are a large family of viruses that cause mild to moderate upper respiratory tract infections, such as the flu. There are many people infected with this virus, at least once in their life (Fadli, 2020).

In Indonesia, the prevalence of COVID-19 of the population exposed to the age of 15-24 years is 340,000 according to statistical data from the Indonesian Ministry of Health. Confirmed population cases in Indonesia were 5,289,414 consisting of 146,798 (2.8%) recovered cases; 4,593,185 (86.8%) cases died; 549,431 (10.4%) active cases (Kemkes RI, 2022). Due to the Covid-19 condition, several agencies have implemented Work from Home (WFH) or work from home, including educational institutions or agencies. Government provide a policy for each school to conduct online learning, namely by using a gadget (laptop or cellphone) to access the Website or Online learning links like Google Forms, Microsoft 365, Google Classroom, etc. The online implementation policy for

students has been set by the Indonesian government through the Circular of the Ministry of Education and Culture of Indonesia Number 4 Year 2020 regarding the Implementation of Education in the Covid-19 Emergency Period and strengthened by the Circular of the Secretary General number 15 of 2020 concerning Guidelines for Implementation of BDR during the Covid-19 emergency which states that the purpose of Learning From Home (BDR) is to meet educational standards through the use of information technology by using computers or gadgets that interact with each other connect between students and teachers (Astini, 2020).

II. Review of Literature

2.1 Online Learning

At first, the spread of the coronavirus had a huge impact on the world's economy, which was starting to sluggish, and now it is now also having an impact on the world of education. Policies that have been taken by many countries and including Indonesia are also by canceling all educational activities, and making the government and related institutions have to present alternatives to the educational process for students and students who are currently unable to carry out the learning process or educational process at an educational institution (Dewi , 2020).

The outbreak of this virus has an impact of a nation and Globally (Ningrum *et al*, 2020). The presence of Covid-19 as a pandemic certainly has an economic, social and psychological impact on society (Saleh and Mujahiddin, 2020). Covid 19 pandemic caused all efforts not to be as maximal as expected (Sihombing and Nasib, 2020).

The existence of the COVID-19 virus in 2020 has had a tremendous impact on almost all fields, one of which is in the field of education. With the COVID-19 virus, the learning process has changed from face-to-face to distance learning, but in these circumstances the teacher still has to carry out his obligations as a teacher, where the teacher must ensure that students can obtain information/knowledge to give to students (Yunitasari, 2020).

In Indonesia, distance or online learning begins on March 16, 2020, where children start learning from their own homes without the need to go to school. Talking about distance learning or online, the importance of mastering technology for a teacher so that distance learning continues to run effectively during a pandemic like this (Yunitasari, 2020).

The consequence of physically closing educational institutions and replacing them with learning at/from home as per government policy is a change in the teaching and learning system. School managers, students, parents, and of course teachers must migrate to digital or online learning systems, which are better known as e-learning or known as online learning or "online learning" in Indonesia. Indonesia is also relatively no different from other countries. Despite realizing that there are disparities in access to learning technology and the diverse backgrounds of parents, the Ministry of Education and Culture of the Republic of Indonesia firmly enforces online learning policies (Wahyono & Husamah, 2020).

2.2 Technology

The development of information and communication technology has a significant impact on several aspects of people's lives. One of them in the aspect of public education can easily gain knowledge or insight from the internet. The number of sources scattered on the internet allows the public to access them via smartphones or gadgets (Sobron, 2019).

Indonesia is facing the challenges of the industrial revolution era. Not only the economic, social, and technological sectors, but the education sector now inevitably has to adapt to this era. This development has begun to be used by several schools in Indonesia in the implementation of their educational programs. The program is known as an online learning program or e-learning system or online learning. Online learning is the use of the internet network in the learning process (Isman, 2016).

Online learning itself can be understood as formal education held by schools where students and instructors (teachers) are in separate locations so that it requires an interactive telecommunication system to connect the two and the various resources needed in it. Learning is everything that can bring information and knowledge in the ongoing interactions between educators and students (Azhar, 2011).

The advantages of online learning are that all levels of society in Indonesia can participate in this program. For example, a child who goes to school and wants to get the same educational knowledge at a favorite school located outside the island. But because of a condition can not leave the house. With this program, elementary school students can continue to study without leaving their homes and schools. So that it can save time and energy, as well as costs incurred by elementary school students. Online provides effective learning methods, such as practicing with related feedback, combining collaborative activities with independent learning, personalizing learning based on student needs using simulations and games (Ghirardini, 2011).

Technological developments allow learning in the classroom to be accessed at home and in the surrounding environment. Two-way communication in online learning programs between teachers and students or between students and students, and teachers and teachers will be better because there are more choices of communication media available. Many communication media allow teachers to provide direct learning through learning videos or recordings. And also in the next process students can play back the video or recording repeatedly as learning material if there is material that is difficult to understand (Sobron, 2019).

The continuity of education during the pandemic will depend on various factors, such as the level of school preparation, the readiness of parents/families, and the readiness of teachers. Consideration must be given to the need for all students to continue to provide education during the pandemic. In addition to using hard copies of teaching materials, such as books, workbooks, and other documents sent by post or courier, schools can use various technology-based solutions to increase the likelihood that students can continue their learning activities (Yunitasari, 2020).

Online learning can be used as a distance learning solution when a natural disaster occurs. As is happening now when the government establishes a social distancing policy. Social distancing is implemented by the government in order to limit human interaction and prevent people from crowding in order to avoid the spread of the COVID-19 virus (Syarifudin, 2020).

This policy makes teaching and learning activities in the context of face-to-face which are usually carried out in schools temporarily suspended. The government replaces learning with an online learning system through existing online learning applications. With this policy, online learning, which was previously not optimally implemented, becomes the only choice of form of learning (Yunitasari, 2020).

Learning must continue, even though there is a global pandemic disaster that makes the government implement social distancing in the world of education. The most appropriate solution with this pandemic is online learning. Online learning is basically

learning that is done virtually through available virtual applications. However, online learning must still pay attention to the competencies to be taught (Yunitasari, 2020).

Online learning is not just material that is transferred through internet media, it is also not just assignments and questions sent through social media applications. Online learning must be planned, implemented, and evaluated as well as learning that occurs in the classroom (Yunitasari, 2020).

III. Research Method

This article uses a qualitative approach in the form of literature. Sources of research data are 41 literature sourced from scientific articles about online learning during the COVID-19 period, psychologically affected students by social distancing, learning outcomes during online learning and the character of students formed. Data collection techniques are carried out by looking for related references, both manually and digitally. After searching from various sources, then concluding from all the references that have been sought by developing them in the form of new knowledge and insights and citing expert information from various sources such as journals and other sources and then writing them down in this manuscript. Data analysis was carried out using the Microsoft Excel application.

IV. Results and Discussion

The results showed that the application of online learning using Edmodo during the Covid-19 pandemic has a positive impact on independent learning of students in the Geometry course. Application of online learning Using Edmodo also makes students more active in the learning process, as well as make them more interested and motivated to learn (Kusuma 2020).

The negative impact of online learning is that most of these students still lack understanding of the delivery of material provided by the teacher through various types of media technology that has been taught, so that the enthusiasm for learning and the achievement of most of these students decreases. This research has given the result that the subjects of biology at each grade level at MAN 2 Jember showed the ineffectiveness of learning both for students and teachers (Ula, Afifa, and Azizah 2021).

If seen from the results of the interview, it can be said that the success rate from the online system in social studies learning is lower than using the offline system in school. In accordance with the statements of the research subjects regarding impairment, power absorption, as well as the level of understanding of social studies material (Amalia and Adi 2020).

Based on the results and discussion described above, conclusions can be drawn that learning mathematics online can help in mastering the material so that the expected material can increase awareness that learning is important and fun, especially mathematics is useful for achieving maximum achievement, so that it has a positive influence on mathematics lessons, there is an increase in mathematics learning outcomes, student attitudes and performance are also good in participating in learning so that there is an increase in students' understanding of the material that has been studied (Yulia and Putra 2020).

Based on some of the things mentioned above, it can be concluded that the application of online learning using WhatsApp group media for class X MA Muhammadiyah Salaka Takalar Regency in learning biology does not meet predetermined

indicators. Thus, learning biology is not effective through application of online learning using WhatsApp groups, the concept of diversity material biology in class X MA Muhammadiyah Salaka students, Takalar Regency (Maulana 2021).

Based on the author's findings from interviews with parents and students at the class he is teaching as well as the author's own findings when evaluating students from deposit memory, the author concludes that the cause of the increased yield student learning who usually has a score less than the KKM standard during learning face-to-face, it turns out that during online learning can achieve many of the above values KKM. This is caused by several factors, namely starting from the duration of the needed by students in completing assignments, facilities and infrastructure such as cellphones must be used interchangeably so that the enthusiasm of students who go up and down while doing online learning, the needs and conditions of each student are different. The negative consequences found by the author Among them students will be more dependent on other people or their parents In each task completion, students are more likely to ignore their assignments if they don't have an assistance, and students will lack confidence in every solution his duties (Khurriyati *et al*, 2021).

Based on this study, strategic online learning and online-learning motivation had a positive effect on the effectiveness of online learning and had an impact on the benefits of online learning indirectly mediated by online-learning effectiveness. Our findings showed that highly motivated students could adopt online-learning strategies easily, effectively, efficiently, and comprehensively, and had higher online-learning effectiveness. By stimulating students' interest in learning, we motivate students to study online. Engaged interest encourages students to adapt, develop learning strategies, and apply them in the online-learning environment. Meanwhile, instructors are expected to create an interesting and interactive learning environment with various learning models such as learning methods with games. In addition, teachers must be able to identify the type of learning content that their students require, so they also need to consider the type of learning content. Student activity in online learning is also needed. Students must be able to determine the learning goals they want to achieve. This is related to the practical steps that students need to take to achieve these goals (Nurmaulidina & Bhakti, 2020).

The results show that online learning is not effective among students because students are psychologically disturbed. The application currently plays an important role in the world of Islamic education, but the application of the online learning system is not as easy as imagined, there are several aspects that must be met first. From a practical point of view, online learning is very effective for learning in the midst of covid 19. However, not for students' psychology. Online learning can be developed into more effective learning by paying attention to the psychology of students affected by social distancing (Yazid, 2021).

The conclusion of their study is that there are still many obstacles experienced by students during online learning on students' reading and writing skills, the majority of students have difficulty finding media that can improve students' reading and writing skills and teachers who should provide a lot of learning materials are deemed insufficient for students. The results of the research show that the average of the results of the pre-test questions given is 83.0% and the average of the results of the post-test questions given is 84.0% and there is a difference of 1.0%. This means that there is an increase after being given a learning video containing tips and tricks to improve reading and writing skills when learning online. Of course, the positive and negative impacts obtained by students are very much related to teachers, teachers must be able to provide media that can improve students' reading and writing skills so that they feel enthusiastic and sufficient with this online learning (Andhini & Sakti, 2021).

Based on the results of research that has been carried out by researchers, online learning has an effect on students' interest in learning. Learning becomes ineffective, because students become easily bored when online learning takes place. Less interesting learning is not like learning in class. Therefore, teachers must create interesting online learning and increase student interest in learning. Ways to foster interest in learning in students by providing learning motivations to students with positive words and building students in learning conditions. It can also pay attention to students when online learning takes place (Yunitasari, 2020).

Strategic online learning and online-learning motivation had a positive effect on the effectiveness of online learning and had an impact on the benefits of online learning indirectly mediated by online-learning effectiveness. Our findings showed that highly motivated students could adopt online-learning strategies easily, effectively, efficiently, and comprehensively, and had higher online-learning effectiveness. By stimulating students' interest in learning, we motivate students to study online (Hong Souchon *et al.*, 2022).

The response of students towards online learning is quite positive. Considering the students as the young generation who are already technology literate than lecturers. The students had no difficulty and more quickly understood the application of online learning. The enthusiasm and spirit of students in following the lectures looks more fun because without a load, not too formal, discussion between lecturer and student can be done without feeling awkward. Online learning does not give pressure to the students. So, students are more open to ask questions and discuss related lecture material presented by the lecturer. Lectures can be conducted from different locations and students can express an opinion without feeling awkward (Alchamdani *et al.*, 2020).

Based on the research it concludes that the results of research regarding the influence of online learning media on achievement studied at SMK Kemala Bhayangkari 1 Waru for class XI Accounting 1 and 2 that there is an effect direct and positive between online learning media with learning achievement. Online learning media has a positive influence, it can be interpreted that if online learning media is increasing which includes indicators of learning spirit, literacy, communication interpersonal, collaborating, and independent learning then learning achievement will also increase (Noviana & Solichin, 2021).

According to the author, online learning is less effective, because the character of students during online learning during this pandemic is declining. Overall character values, only the creative value increased because it was accompanied by an increase in technology in the hands of students. Lack of supervision of teachers and parents, lack of self-awareness, lack of adaptation, and technological advances are the causes. But it is undeniable that there are still some who try to stay honest and adapt as best they can (Massie, 2021).

Based on the results of the T-Test, it can be concluded that there is no effect of online mathematics learning on student achievement during the COVID-19 pandemic at SMP Negeri 2 Tabanan for the 2020/2021 academic year. This is likely due to the weak learning intention of students using online learning models, lack of internet access in students' homes in remote locations, difficulty understanding material through online learning methods, lack of student activity in participating in online learning and lack of supervision from students' parents (Nugraha, 2021).

In lectures with direct meetings that should be scheduled, the teacher cannot attend because they have assignments at the same time. Online can provide effective learning methods such as providing related feedback, combining collaborative independent learning activities, and personalizing learning based on student needs using games and simulations.

Students who take part in the online learning program can save time and effort. So that the remaining time and energy can be used for other things outside of learning hours (Sobron, 2019).

Looking at the analysis of the hypothesis test of the independent variable (Online Learning) and the dependent variable (Social Studies Learning Outcomes) at a significant level of 5%, it shows that online learning has a positive and significant influence on the learning outcomes of social studies subjects for class VIII at Miftahul Falah Senori Middle School, which is evidenced by there is a correlation calculation using the SPSS ver 22 program (Suriyanto, 2021).

The students agreed that online teaching was valuable for them even though the online mode of classes was the first experience during the pandemic period of Covid-19. Some of the previous studies suggest that the technology-supported courses have a positive relationship with students' performance. According to APA Work Group of the Board of Educational Affairs (1997), the learner-centered principles suggest that students must be willing to invest the time required to complete individual course assignments. Online instructors must be enthusiastic about developing genuine instructional resources that actively connect learners and encourage them toward proficient performances. For better performance in studies, both teachers and students have equal responsibility (Gopalet *et al.*, 2021).

Based on the findings and discussion above, it can be concluded that online learning has a positive impact on students' academic performance in terms of learning motivation, learning achievement, and learning engagement. Besides, students also showed that conducting online learning is relevant during pandemic. Furthermore, flexibility, accessibility, learning autonomy, and boosting students' achievement become the strengths of conducting online learning (Mandasari, 2020).

Online learning and the performance of lecturers have a positive and significant simultaneous effect on the learning motivation of Faculty of Economics and Business, Warmadewa University students; this is evident from the results of the F test. Thus, the hypothesis that the application of online learning and lecturer performance has a significant simultaneous effect on the learning motivation of Faculty of Economics and Business, Warmadewa University students is proven the truth (Setana *et al.*, 2021).

There is a big influence on the internet learning variable on the learning inspiration of grade 6 students at SDN Puton Diwek Jombang. This can be seen from the influence of the value where the large value is $t_{count} (5\% = 170.592)$ $t_{table} (0.361)$ and to a large degree of $0.000 < 0.05$ so it is very good, and it can be concluded that in the test H_a is recognized and H_o is dismissed. This means that there is a big influence on internet learning on the learning inspiration of 6th graders at SDN Puton (Sa'diyah and Pratiwi, 2021).

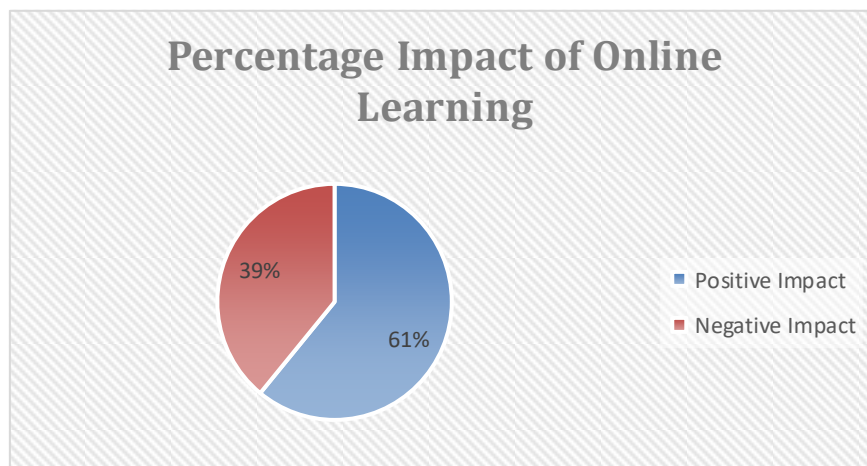


Figure 1. Percentage Impact of Online Learning

Based on data analysis using the Microsoft Excel application, 39% was obtained for journals which stated that online learning had a negative impact and 61% for a positive impact.

The positive impact as much as 39% is divided into 5 categories like figure 2. the positive impact is dominated by an increase in learning outcomes with value 15.22% and the negative impact with percentage 61% divided into 8 categories like figure 3. The negative impact is dominated by difficulty understanding material with value 13.53%.

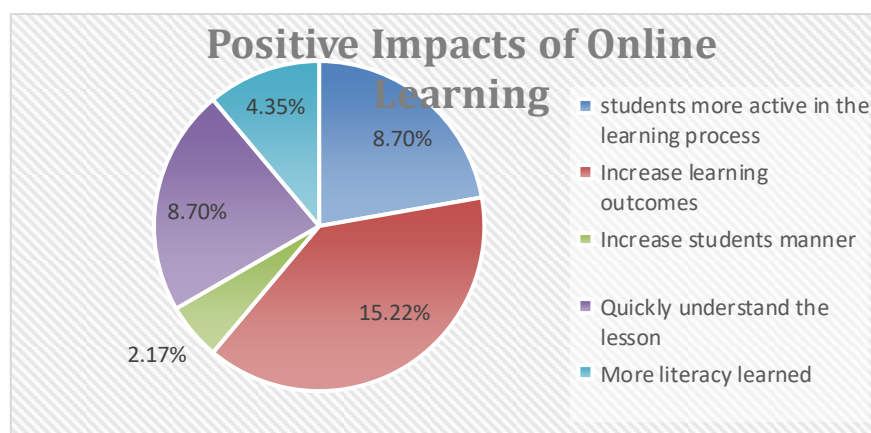


Figure 2. Positive Impact of Online Learning

Percentage increasing learning outcomes have illustrated that the world of education has adapted to technological developments on its ability to improve the quality of education, especially in accordance with its use in carrying out the learning process by building infrastructure through hardware, access or internet networks that can be done to meet all the needs for appropriate learning methods. more conducive. This situation should not be ignored, efforts should also be made to increase student learning independence through an online education system at home (study at home), one of which can be attempted is the application of mathematical learning models that can provide open opportunities for students to study independently and students do not have difficulty learning. So, this learning model must be able to optimize students' learning motivation, and make students trained to learn independently, streamline the student learning process,

and students are able to keep pace with the rapidly developing knowledge and technology (Yulia and Putra 2020).

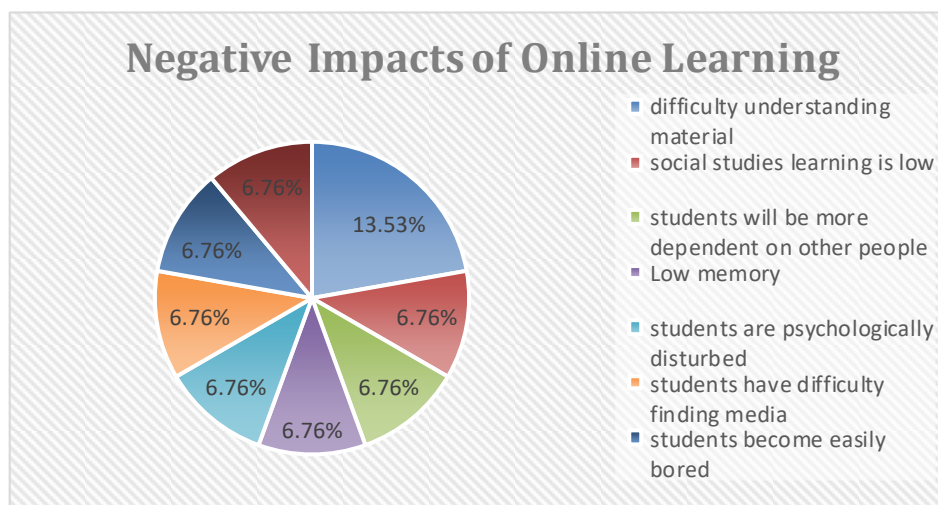


Figure 3. *Negative Impact of Online Learning*

Online learning can make it difficult for students to understand the material. this is likely due to the weak learning intention of students using online learning models, lack of internet access in students' homes in remote locations, difficulty understanding material through online learning methods and lack of supervision from students' parents. Obstacles that often occur that are used as reasons by students not to take part in online learning such as: Lost connection, Unable to connect to online learning applications, There are activities and many other reasons. so that the knowledge conveyed by the teacher cannot be understood in its entirety, even if it is not understood at all (Nugraha, 2021).

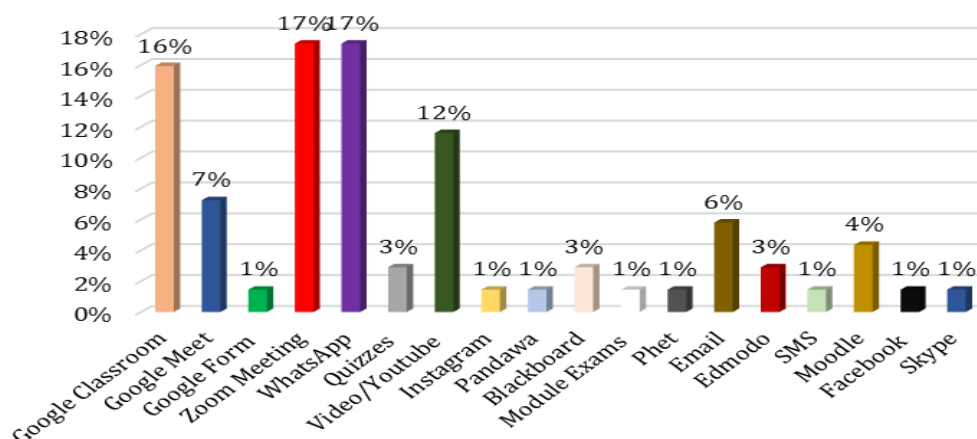


Figure 4. *Percentage of Technology Utilization in the Form of Online Learning Media in the Social Distancing Era*

The results of data processing show that many teachers and students prefer to use learning media in the form of whatsapp and zoom meetings with a percentage of 17%. Other learning media that are of interest are google classroom with a percentage of 16%, video/youtube with a percentage of 12%, google meet with a percentage of 7% and others are learning media that are less desirable. Whatsapp is the most popular media because it doesn't take up a lot of quota, can practically be opened on a smartphone or laptop, can

share many types of files and communicate more effectively. Meanwhile, zoom meetings are also preferred because they provide opportunities for students and teachers to discuss face-to-face through online.

V. Conclusion

Online learning is an alternative to replace conventional learning in the midst of COVID-19. The application of social distancing to prevent the spread of covid 19. Social distancing is also applied in the school and university environment. So schools and universities are also required to study at home with online learning. This has an impact on the psychology of students due to social distancing, which should reduce social interaction, the effectiveness in learning is also reduced. Not only are students psychologically affected by social distancing but also online learning is a burden for students because they have to use cellphones or computers too often, and it's not uncommon for students to become stressed because of the implementation of the online system. Online learning has become a complaint for students in the midst of this covid 19. So that it is not uncommon for students to become stressed because of many assignments at the same time and short collections. Therefore, the application of online learning is feasible, but not by giving very many assignments with short collections, it can be replaced with joint discussions because it can support learning effectiveness and focus on learning. The use of learning media technology in the era of social distancing mostly uses whatsapp and zoom meetings.

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