Utilization of Information Technology for Learning in Covid-19 Disaster Conditions

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Abstract. The learning process during pandemic Covid-19 is done online to suppress the spread. The current pandemic conditions the role of information technology is significant in online learning. The purpose of this study is to find out "Utilization of Information Technology for Online Learning in Covid-19 Disaster Conditions". This research uses qualitative and quantitative surveys. Data sources are lecturers and students in the Geography Study Program at Lambung Mangkurat University. Online learning here uses e-Learning, Google Class, WhatsApp, Zoom, other information media and internet networks that can connect lecturers and students. The findings of this study are that information technology strongly supports the success of online learning in Covid-19 disaster conditions. The limitations of this study limit the information technology understudy and define the learning process during the Covid-19 pandemic in certain subjects. The results showed that the use of information technology is significant to support the success of online learning in Covid-19 pandemic conditions. The most widely used are E-learning and Watsapp. Whatsapp is most effective used as a medium in online learning because it does not require large quotas and good signals. The obstacles are some students in remote areas, and the ability to buy a variety of quotas.

1. Introduction

Covid-19 has become a worldwide health issue [1][2][3]. Covid-19 occurs throughout the world both in developed and developing countries, including Indonesia [4][5]. The Indonesian government is faced with a difficult situation related to the Covid-19 pandemic to reduce mortality and socio-economic impacts [6]. The country is experiencing a crisis, so that policy knowledge is needed to provide insight, inform ongoing events, and predict future scenarios. Policy science developed into a scientific field characterized by conceptual wealth, theoretical diversity, and methodological pluralism [7][8]. The policy science in this study is to help the government and the public understand the Covid-19 pandemic [9]. The problem that arises now is weak supervision [6].

The covid-19 virus can last for several hours and can survive at temperatures of 26-27^{0}C [10][1]. Very small virus size cannot be seen using the naked eye and is very dangerous. Many countries are panicking the spread of the Covid-19 virus. WHO has designated Covid-19 as a pandemic and disaster so that the whole world must be vigilant. This virus can attack anyone of any age. The frequency of the spread of Covid-19 continues to increase, and its impact is enormous in all fields, including the

world of Education. The spread of Covid-19 continues to grow so that the government provides policies and appeals to keep people calm. Government policies seem to prioritize economic aspects rather than focus on handling diseases that endanger citizens [11]. Many people lost their jobs, and entrepreneurs went out of business [12]. Although the spread of Covid-19 continues to increase, there are still many people who are less concerned with the existing appeal from the government [13].

The government also issued regulations to carry out most activities at home, including work, study and worship [4][14]. Learning activities carried out at home because learning activities gather a lot of people so that they have a high risk. Covid Pandemic 19, requires that the learning process activities by lecturers and students be carried out at home [14]. The learning process during the pandemic is done online to suppress the spread. Online learning is done by utilizing information technology using computer devices or gadgets, smartphones, notebooks and laptops so that the learning process continues well. Online learning can be in the form of live chat, audio and video using a smartphone, computer or other devices [15]. Online learning is expected to be able to overcome the problem of learning in Covid-19 Pandemic conditions. Online has many designations in academic literature, including media cyber, media digital, media virtual, e-media, media networks, and new media [16].

The public is expected to be able to utilize information technology using the internet network to assist online learning. Online learning is a system using pedagogical tools (educational aids), through the internet and network-based technology to facilitate the learning process through action and interaction [17]. Information technology used includes e-learning, Google Class, WhatsApp, Zoom and other information media.

The current pandemic conditions the role of information technology is significant in online learning. E-learning is one of the information technologies used in universities to help the online learning process. Through E-learning, Google Class, WhatsApp, and Zoom students can listen to the description of the material from educators, actively observing, doing, and demonstrating. The content for online learning is virtualized so that it is more interesting, dynamic, and able to motivate students. Zoom and Google Class applications can bring together lecturers and students virtually so that the learning process can run well [4].

The success of the online learning process needs support from various parties, including support from universities. Existing higher education support is related to government policy in anticipating learning activities in the Covid-19 pandemic conditions. Lambung Mangkurat University is one of the tertiary institutions that respond to government policies and carries out the direction of the Minister of Education to implement Distance Learning to reduce the spread of Covid-19. The online learning process is carried out using existing information technology. Based on the existing background, it is necessary to research the Utilization of Information Technology for Online Learning in Covid-19 Disaster Conditions. The purpose of this study is to find out "Utilization of Information Technology for Online Learning in Covid-19 Disaster Conditions".

1.1. Literature review

Covid-19 became the world's spotlight because the impact of Covid-19 was huge. As a result of the Covid-19 policy changes occur such as (1) learning from events that have happened before, (2) negotiations and agreements, (3) information transfer [18][19][20][21]. The existing policies are formulated from the experiences of various countries in dealing with Covid-19.

The condition of the Covid-19 pandemic prompted various countries to begin to utilize the development of existing technology, including Indonesia. The rapid growth of Information Technology, especially the internet opens opportunities for the development of better information services in educational institutions [22]. Information technology is science in the field of computer-based information and its development is very rapid [23]. Online learning is one of the steps taken by the government during the Covid-19 pandemic. The success of online learning using information technology is expected to minimize fatalities and reduce the spread of Covid-19 (see Figure 1).
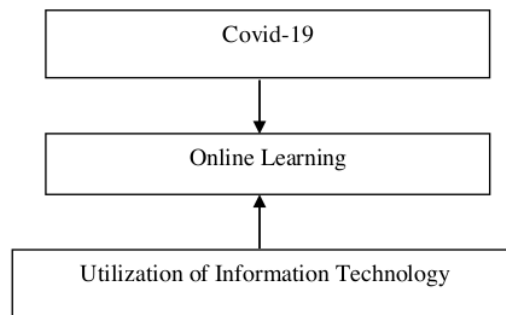
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Figure 1. Utilization of information technology for online learning in Covid-19 disaster conditions.

2. Method

Research uses qualitative and quantitative approaches [24][25][26]. Qualitative research is a big box that accommodates all approaches other than quantitative [27]. Qualitative research examines phenomena that are happening, are being experienced, both in attitude, behavior, motivation, and action, producing descriptive data in the form of written or spoken words from people and observable behavior [5][28][29]. Qualitative research characteristics are descriptive, data in the form of words, images, and not numbers [30]. Quantitative research is research using a descriptive-analytic approach to know the use of information technology for online learning [31]. Quantitative research uses numbers.

Data in this study were collected from observation techniques, literature studies, and interviews using questionnaires. This study describes the Use of Information Technology for Online Learning in Covid-19 Disaster Conditions (see Table 1). Respondents in this study were students and lecturers in the Faculty of Social and Political Science of Geography Study Program, Lambung Mangkurat University. The lecturers here are lecturers of Hydrology and Meteorology and Climatology courses. The object of research is Information Technology used in the online learning process at the Faculty of Social and Political Science of Geography Study Program, Lambung Mangkurat University, during the Covid pandemic19. Online learning here uses eLearning, Google Class, Whatsapp, Zoom, other information media that can connect lecturers and students. The findings of this study are that information technology strongly supports the success of online learning. Research limitations limit the information technology used and limit the learning process during the Covid-19 pandemic for certain subjects.

Table 1. Research variables.

Research Variable	Sub Variabel
Information Technology	E-learning Google Meet Google Class Whatsapp Zoom
Online Learning	Hydrology Meteorology and Climatology

3. Results and discussion

The covid-19 virus hit the world both in developed and developing countries, including Indonesia. The government has a policy of learning, working, and worshiping is done at home to reduce the rate of the spread of Covid-19. The covid-19 virus has a considerable influence in the field of education. The

existing education has been carried out face-to-face now since there was a Covid-19 Virus pandemic the learning process was done online or at a distance. Online learning to support government programs to curb the spread of the Covid-19 virus was also carried out in South Kalimantan. Existing government programs following the Regulation of the Minister of Health of the Republic of Indonesia Number 9 of 2020 and the Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07 / MENKES / 262/2020 and HK.01.07 / MENKES / 304/2020 which contains the stipulation of Large-Scale Social Restrictions in the territory of Indonesia including Banjarmasin City, Banjarbaru City, Banjar Regency, and Barito Kuala Regency, South Kalimantan in the context of accelerating the handling of Corona Virus Disease (Covid-19).

Online learning is one of the lecture solutions in the covid-19 pandemic. Based on the Circular of the Ministry of Education and Culture (Kemendikbud) Number 15 of 2020 concerning Guidelines for Organizing Learning From Home in the Emergency Period of the Distribution of Covid-19. The purpose of implementing Learning From Home is to ensure the fulfillment of students' rights to get education services during Covid-19 emergencies, protect citizens of the education unit from the adverse effects of Covid-19, prevent the spread and transmission of Covid-19 in education units and ensure fulfillment of support psychosocial for educators, students, and parents [32].

Online learning requires learning media. Learning media is a means of channeling messages and absorbing information. Learning media that are well designed, really help students in digesting and understanding the subject matter. The development of information technology in the current era of globalization and information has spurred the development of increasingly advanced learning media [33]. The use of Information and Communication Technology (ICT) plays a significant role in online learning conditions.

Lambung Mangkurat University is one of the tertiary institutions that respond to government policies and carries out the direction of the Minister of Education to carry out Distance Learning and work from home to curb the spread of Covid-19. The Minister of Education's directives is under the Secretary-General of the Ministry of Education and Culture No. 36604 / A3 / KP / 2020 dated March 15, 2020, regarding procedures for employees who work from home regarding preventing the spread of Covid-19 in the Ministry of Education and Culture. Online learning and work from home (WFH) in the University of Lambung Mangkurat environment based on the Chancellor Circular Letter No. 1366 / UN8 / KP / 2020 on April 1, 2020, about measures to prevent the spread of Covid-19. Extension of online learning and work at home is based on the Chancellor Circular Letter Number 1627 / UN8 / KP / 2020.

The use of information technology in this study classifies the use of information technology using computer devices or gadgets, smartphones, notebooks, and laptops [34]; [35]; [30]. Utilization of information technology in the online learning process using the internet. The results obtained in research related to the use of information technology for online learning in Covid-19 disaster conditions in the Geography, Faculty of Social and Politic Science University of Lambung Mangkurat can be seen in Table 2 and Table 3.

Table 2. Recapitulation of information technology utilization in online learning processes in Geography, Faculty of Social and Politic Science University of Lambung Mangkurat.

No.	Subject	Utilization of Information Technology				
		E-learning	Google Meet	Google Class	Whatsapp	Zoom
1.	Hidrologi	√	√	√	√	√
2.	Meteorology and Climatology	√	√	√	√	√

Source: Primary Data Processing, 2020.

Table 3. Utilization of Information Technology in Online Learning Processes in Geography, Faculty of Social and Political Science of Lambung Mangkurat University.

Utilization of Information Technology	Answer	Subjects			
		Hydrology	Percentage (%)	Meteorology and Climatology	Percentage (%)
E-learning	Yes	90	100	90	100
	No	0	0	0	0
Google Meet	Yes	77	86	79	88
	No	13	14	11	12
Google Class	Yes	79	88	81	90
	No	11	12	9	10
Whatsapp	Yes	90	100	90	100
	No	0	0	0	0
Zoom	Yes	82	91	85	94
	No	8	9	5	6

Source: Primary Data Processing, 2020.

Online learning of Geography, Faculty of Social and Politic Science at Lambung Mangkurat University using ICT. ICT is all forms of technology that supports the delivery of information and the implementation of unidirectional, two-way, or even more direct communication. ICTs include radio, television, to the internet, and even conferences via mobile phone screens [31]. The use of ICT in education is very familiar with the term E-learning. E-learning is a learning process that is poured through internet technology, simple, personal, and fast principles need to be considered. To increase attractiveness, you can also use game theory. Therefore learning principles and communication need to be designed like conventional learning. Here the need for the development of an appropriate e-learning model following requirements [36].

E-learning has been used for a long time in the University of Lambung Mangkurat including the Study Program of Geography, although not all lecturers use and utilize it. During the Covid-19 pandemic, all lecturers and students used E-Learning to support the existing teaching and learning process. E-learning is a learning model that utilizes information technology facilities in distance learning / online [37]. Online learning is done using information technology using electronic devices, namely laptops, computers, and gadgets with internet media. Distance learning or online is an alternative to modern learning methods. There is no difference in the quality assurance process between online learning and face-to-face learning. Besides using E-learning, it also uses Google Meet, Google Class, Whatsapp, and Zoom. The most widely used information technology is E-learning and Watsapp (see Table 3). Watsapp is most effective because it does not require a large quota and a good signal.

The Use of WhatsApp, Google Class, Google Meet, and Zoom Applications can be used well in the delivery of material. The zoom application can bring together lecturers, and all students face-to-face virtually. The obstacle to using the Zoom application is the use of a large enough quota, which is rather difficult for most students. Although the pandemic condition of student interest in learning remains high, this is evidenced by the average student attendance above 85%. Students' high response in lectures can also be seen from the active response of students when discussions are held through Whatsapp, Google Class, Google Meet, Zoom, and E-learning groups. The obstacle in online learning is that several students are living in remote areas, and the ability to purchase quotas varies.

4. Conclusion

Based on the results of research that the use of information, technology is very important to support the success of online learning in the conditions of the Covid-19 pandemic, Information technology

used by lecturers and students is very diverse, such as E-Learning, Google Class, Google Meet, Whatsapp, Zoom and other information media. The most widely used information technology is E-learning and Whatsapp. Whatsapp is the most effective because it does not require a large quota and a good signal, and there are obstacles for some students in remote areas, and the ability to buy various quotas.

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