An Exploratory Study on Implementation of Online Learning by Students During the COVID-19 Pandemic

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ABSTRACT

COVID-19 was announced as a pandemic. Indonesia has been applying online learning as an attempt to break the COVID-19 spread-chain. The purpose of this study was to identify the implementation of online learning by students during the COVID-19 pandemic. The research used qualitative research with a literature study method. Data analysis was performed by triangulating data sources. Based on the results of an analysis of the implementation online learning at university level, it is known that there are students who strongly support the implementation of online learning and students who do not have enthusiasm for online learning. Student enthusiasm is influenced by technical and non-technical factors which some aspects can become an obstacle. Several solutions can be done to solve the weakness of online learning. Implementation of online learning still has advantages and disadvantages that should be able to be evaluated by the government.

INTRODUCTION

On 31 December 2019, a new type of SARS virus was identified in Wuhan City, Hubei Province, China (Kusnayat, Sumarni, Mansyur, & Zaqiah, 2020). The name of virus is SARS-CoV-2 or more commonly known as Coronavirus or COVID-19. The World Health Organization (WHO) announced to the world community that the COVID-19 was declared as a pandemic since March 11, 2020. The determination of COVID-19 as a pandemic seems to hint at the world society that the virus is very dangerous and can attack humans in any country (Lalmuanawma, Hussain, & Chhakchhuak, 2020). Various sectors of life experienced a serious impact of the pandemic, ranging from health, economics, social, to education. To prevent the spread of COVID-19 in the education sector, the Minister of Education and Culture then created a policy which aimed to prevent student mobility and educators so that the spread of COVID-19 could be minimized through online learning (Pakpahan & Fitriani, 2020). The policy of the Minister of Education and Culture related to online learning was
written on a Circular Letter Number 4, Year of 2020 on the implementation of education policy in COVID-19 emergencies stating that learning can be done using online learning system concern to internet reach and ease of access to study from home. Online learning with the use of internet access can be used in Indonesia considering the fact that internet users in Indonesia as of January 2020 reached 175.4 million from 272.1 million inhabitants of Indonesia (Pakpahan & Fitriani, 2020). The expand of internet access and the growth of internet and technologies are also the reason that online learning can be implemented (Barbour, Archambault, & DiPietro, 2013). Online learning is expected to be an alternative to replace face to face learning (Carter, Rice, Yang, & Jackson, 2020).

At the college and university level, most campuses have carried out various activities through the online system such as administration implementation, lecturer meetings, new student admissions, until the study that was initially done face to front in class is diverted into online learning. For colleges and universities that were previously accustomed to online learning methods, they will not take this as a problem, but it’s different with the colleges and universities that have never used online learning before, they will take this as a challenge. The sudden policy of switching the learning system will bring the advantage and disadvantage of the campus, educators, and students (Kholisho & Marfuatun, 2020).

The advantages for students during online learning are they do not have to make mobility to the campus, no need to spend travel costs, avoid stress due to traffic jam, safer than exposure to COVID-19, can be gathered with family at home, and can follow the lecture by relaxing while doing the homework (Purwanto, 2020). Behind these advantages, several students are experiencing difficulties in the implementation of online learning. The cause of the problems that occur in online learning is quite varied including the difficulties of internet access, the cost of large internet quota, and the loss of learning spirit because of the different atmosphere with face to face learning in the classroom. These conditions are lacking the effectiveness of online learning and stimulate the unsuccess of the learning process (Purwanto, 2020).

The obstacles in the learning process by considering the design of learning that produces the effect of the learning process (Carter et al., 2020). A good online learning indicator should have good accessibility to all learners (Rice, 2018). Therefore, the program expansion of learning opportunities through other media can be utilized as an alternative solution to the constraints of online learning so that students who are struggling in internet access can still follow the online learning well. The expansion program of this learning opportunity can be manifested as the form of streaming radio integration programs, live television programs, and the use of media such as record tapes and cell phones (Ravenscroft et al., 2018; Dang, 2020; Bali, 2019). With these programs, students will still be able to follow online learning even if they are in a location that has low internet connectivity.

Regarding the statements mentioned above, researchers are encouraged to do research that aims to identify the implementation of online learning by students during the COVID-19 pandemic and provide proposed solutions to the obstacles faced in implementing online learning to increase the effectiveness of online learning.

**METHODOLOGY**

The research used qualitative research with the literature study or narrative review methods. Research of literature study is a method with data collection based on the library source, reading the source of the library, and recording and processing of the data on the materials studied (Zed, 2003). In the study literature, the studies should be concern of some
characteristics which are the researcher faced directly with the text that can be in the form of alphabets and numbers, researchers do not deal directly with the field data, the data of the literature studied has a characteristic of ready to use, researchers only faced with the data source library or literature, data literature obtained is the main source of data, as well as the condition (Zed, 2003). The literature was obtained from various literature and references capable of supporting research. Literature and references are obtained through journals, books, and news related to research. The focus of research in library studies is to find a variety of theories, principles, or ideas that are used as tools to analyze and provide solutions from the formulation of research issues studied. This research is a descriptive analysis by describing the data found after it has been established and explaining the data to be understood by the reader.

The data source used secondary data with the data that is not obtained from direct observation. The source of data taken is the result of research that has been done by previous researchers. The selection of data sources is based on the principle of provenance (proof), objectivity, persuasiveness (degree of confidence), and value (The USCS University Library, 2020).

This research subject was used students whom implementing online learning. Research subjects are obtained through library data that is considered relevant to the study. The research technique was carried by the documentation techniques of books, records, articles, journals, and news (Arikunto in Dewi, 2020). Research techniques in collecting data sources are conducted by selecting a data source related to the topic of online learning impact for students during the COVID-19 pandemic.

Data validity is done by being guided on data triangulation. Data triangulation can be distinguished into four types namely data triangulation, investigator triangulation, methodological triangulation, and theoretical triangulation (Hadi, 2016). In this study applied the triangulation of data sources. Data sources are obtained through the study of libraries or study literature. Data triangulation is done by comparing various sources of library data. Data triangulation is done to test the validity of the research data (Ary, et al., 2018).

Data analysis is the stage of finding and structuring data obtained systematically to improve research understanding of the cases studied. Analysis of the data used inductive analysis, in other words, the analysis is done based on the data obtained. Miles and Huberman (1994) stated that the analysis consists of three steps which are data reduction, data presentation, and conclusion withdrawal. At the data reduction step, the selection process consists of simplification, abstraction, and data transformation roughly arising from written records based on field data. With the data reduction step, the data obtained by researchers do not need to be quantitatively analyzed. The qualitative data then simplified and transformed by a selection, summary, or classification. The data presentation step provides structured information to provide the possibility for the withdrawal phase of the conclusion. Data presentation can provide the validity of a qualitative analysis that can be reflected through the matrix, network graph, or chart. With this, researchers could determine the next step to conclude. The conclusion withdrawal step was a configuration activity intact based on the previous step. The verification at the conclusion stage has been reviewed through the field notes and references to achieve an agreement. The following figure is a chart of interactive data analysis techniques according to Miles and Huberman (1994):
RESULT AND DISCUSSION

Following the Circular Letter Number 3 Year of 2020 on the prevention of Corona Virus Disease (COVID-19) in the unit of education, various schools, colleges, and universities take the policy of implementing online learning as one way to break the chain and inhibit the spread of COVID-19. Online learning is learning that utilizes the progress of technological and information developments instead of face to face learning in a variety of education units including the college and university level (Hartanto, 2016). Online learning demands the role of lecturers and students to be able to adjust the conditions and situations in the middle of the COVID-19 pandemic for learning to be effective. Based on the results of the analysis, it can be obtained:

Various Applications to Support Online Learning

By looking at the COVID-19 pandemic situation, various educational institutions are required to carry out online learning instead of face to face learning. To support the implementation of online learning, various applications can be used as learning media in the process of delivering learning materials. Applications that can support the online learning process include Google Classroom, Zoom, Hangout, Google Duo, Google Meet, WhatsApp, Facebook, YouTube, etc. In addition, the government also suggests that some learning applications to support other learning processes such as Ruangguru, SekolahMu, Quipper, Kelas Pintar, Zenius, etc. (Pakpahan & Fitriani, 2020).

Based on the research conducted by Naserly (2020), there were 3 of the most dominant applications used by the students and lecturers namely Zoom, Google Classroom, and WhatsApp. Zoom is a video conference application that can be used by lecturers and students to perform interactive learning because the Zoom application can display both subjects directly (Kusuma & Hamidah, 2020). Zoom has a sharing screen feature so it can be used as a substitute facility for face to face learning between lecturers and students like conventional learning (Naserly, 2020). Google Classroom is Google's proprietary application designed to implement online learning where lecturers can serve as a material presenter to students (Nadziroh, 2017). Based on a study, Google Classroom is capable of being used as motivational lighter’s learning learner. In its use, Google Classroom needs a good connection (Rozak & Albantani, 2018). Another application that is most often used by lecturers and students is WhatsApp. WhatsApp has the potential as a media learning can increase the motivation of learning students and can be used to form a learning group so as to develop the knowledge and cooperation of learners (Rambe & Bere, 2013). Online learning is essentially required for the stability of both lecturers and students, so learning can take place optimally and effectively to replace face to face learning (Nadziroh, 2017).
Student’s Level of Enthusiasm of Online Learning Variations

Based on research from Kusnayat et al. (2020) as many as 73% of Telkom University students have enthusiasm for the survival of online learning while the other 27% answered hesitantly with the policy of online learning. At another university, the UIN SGD Bandung as much as 48% of students strongly supported the campus-related policies of online learning, while 34% of students answered hesitantly, and 28% of students had no enthusiasm for online learning. The results of the analysis of the enthusiasm of online learning in UIN SGD Bandung and Telkom University can be interpreted that the students who strongly support the implementation of online learning are students who can adapt to the learning process. While students who do not have an enthusiasm for online learning are students who are not ready to adapt to the implementation of online learning due to various factors. Factors that are the cause of the lack of student enthusiasm for online learning is the area where students live with poor internet access, the financial skills of students, as well as comfort in the learning process (Rahardjo, Lubis, & Harijati, 2016). On the other hand, students who answer hesitantly are students who feel there is a freedom in the implementation of learning, so that the opportunity to not follow a class is greater although the demands of online learning should still be implemented considering the condition is still in the emergency period COVID-19 pandemic. Based on research, as many as 73% of Telkom University students have enthusiasm for the survival of online learning while the other 27% answered hesitantly with the policy of online learning. At another university, the UIN SGD Bandung as much as 48% of students strongly supported the campus-related policies of online learning, while 34% of students answered hesitantly, and 28% of students had no enthusiasm for online learning (Kusnayat et al., 2020). The results of the analysis of the enthusiasm of online learning in UIN SGD Bandung and Telkom University can be interpreted that the students who strongly support the implementation of online learning were students who can adapt to the learning process. While students who did not have an enthusiasm for online learning were students who are not ready to adapt to the implementation of online learning due to various factors. Factors that cause the lack of student enthusiasm for online learning is the area where students live with poor internet access, the financial skills of students, as well as comfort in the learning process (Rahardjo et al., 2016). On the other hand, students who answer hesitantly were students who feel there is a freedom in the implementation of learning, so that the opportunity to not follow a class is greater although the demands of online learning should still be implemented considering the condition is still in the emergency period COVID-19 pandemic. Student’s understanding of a material taught by lecturers or self-study results is also a student's consideration of the effectiveness of online learning (Mustofa, Choodzirin, & Sayekti, 2019).

The Advantages and Disadvantages of Online Learning Implementation

The implementation of online learning by students has advantages and disadvantages. The advantage of implementing online learning policies was the flexibility of learning and the increasing interaction between lecturers and students. Online learning has time efficiency over the learning evaluation process so that the learning process can take place easier and faster (Sriwiwahjriyah, Ruskan, & Ibrahim, 2012). With online learning, students have more learning opportunities and can enjoy a new learning atmosphere. New situations and learning atmosphere are expected to increase student enthusiasm in learning. It can be noted that online learning has various features such as visual, audio, kinaesthetic, and mixed learning modalities (Surjono, 2011). The modality of learning features can accommodate students with various learning styles. The interactions and communications that are awakened online can increase the cooperation between lecturers and students (Sari, 2015).
Aside from the advantages of online learning implementation, the application of online learning policies also has obstacles that can be made good corrections by the government. The lack of application of online learning policies is limited internet access for lecturers or students who are incapable of facilitating themselves (Rahardjo et al., 2016). Limited internet access can impact the learning process and not achieve learning objectives. The use of internet access demands its users access capability through tools such as gadgets, computers, or laptops accompanied by maximum signal availability. The use of internet access is also related to cost and payment problems, both the cost of technology facilities and internet access. In addition to these shortages, there are barriers to the operating skills of the technology and the internet are lacking (Cook & Thompson, 2014). Online learning emphasizes learning with cognitive and psychomotor aspects, while the affective aspect is less capable of being online (Cooper & Higgins, 2015). The interactions that were built through online learning are not physical or face-to-face interactions. These interactions can influence the success of the learning process and the establishment of the affective aspect attitude (Sari, 2015). The disadvantage of online learning can be the research and evaluation of the government, especially the Ministry of Education and Culture.

The Obstacles of Online Learning

The obstacles often faced by students during online learning are influenced by technical factors and non-technical factors (Nasution, 2016). Technical factors are factors that affect the technical workways of a device such as the use of laptops, computers, or mobile phones and the use of applications. While non-technical factors can be an individual's ability to develop individual human psychological conditions such as comfort in online learning, absorption, physical condition, interests, and individual motivation, as well as the economic condition of the family that affects the ability to purchase internet quota.

Technical obstacles faced by students one of them is the lack of ability of students in the use of applications to support the implementation of online learning. The results of the study conducted by Kusnayat et al. (2020), showed that as many as 34% of Telkom University students and 31% of students of UIN SGD Bandung had difficulty to use the online application, 21% of Telkom University students and 19% of students of UIN SGD Bandung answered hesitantly, and as many as 45% of Telkom University students and 50% of UIN SGD Bandung did not have any difficulties with online application. This proves that there needs to be a training on how to use online applications that become a learning medium as a substitute for the class in the lecture face to face. Online learning through a variety of supporting applications can continue to be implemented as an alternative to face-to-face learning due to the COVID-19 pandemic conditions that require students not to interact directly so as to minimize and break the COVID-19 transmission. The online learning implementation functions can be achieved when students are able to run and perform appropriate activities and are easily aligned with online learning objectives (Mutia & Leonard, 2013).

Based on the research results of Kholisho & Marfuatun (2020), there are two technical obstacles perceived by the students, namely, signal constraints and problems regarding comfort in the learning process. A total of 11 respondents from 67 respondents stated that the internet connection available in their home showed a missing-out connection. Basically, online learning will depend heavily on internet connectivity in an area. The quality of the internet service will be adjusted based on the underlying internet connectivity. If the internet connection in a low-quality area then does not support video conferencing-based learning
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(Trevisan, Safari, & Giordano, 2020). In addition, there are obstacles about student comfort in online learning at home. The 4 of 67 respondents expressed uncomfortable learning at home. The convenience of students to conduct online learning in the home is related to the condition of parents. A small part of the respondent, 11 respondents stated that parents are unable to support the comfortable learning atmosphere at home.

Physical conditions, interests, and motivation for learning that are on the heaving as non-technical constraints should also be a concern in the implementation of online learning. The physical condition of the student during unhealthy or ill and sick conditions is capable of affecting the knowledge-absorption of students during online learning (McBrien, Cheng, & Jones, 2020). A lack of interest in students of certain courses can be an obstacle to online learning (Li & Tsai, 2017). Individual learning motivation also affects student’s knowledge-absorption power during online learning (Kholisho & Marfuatun, 2020). In addition, the economic condition of each family of many students is also an obstacle. Economic conditions of each family students related to the ability of students to buy or pay quota to access the internet (Chandrasekaran, Thiruvenkadam, & Subrahmanian, 2019). The ability of the student to buy internet quota can be sourced from two kinds of money themselves and request for money from their parents. Based on the research of Kholisho & Marfuatun (2020), a total of 29 respondents from 67 respondents expressed the ability to purchase quotas with their own money, while the remainder of the total respondents stated that the source of quota purchases came from requesting money from their parents.

**Solutions to Online Learning Obstacles**

The implementation of online learning that has been implemented during the COVID-19 pandemic has a variety of obstacles that have the potential to disrupt the sustainability of the learning process. Some of the solutions that can be done are by utilizing alternative learning media such as the use of audio teleconference in the form of cell phones, video tapes, radio broadcasting programs for special learning, and the program of live broadcasts of television (Bali, 2019; Ravenscroft et al., 2018). These programs can be used by governments, especially the Ministry of Education and Culture, to overcome obstacles in the implementation of online learning.

To address the technical problems of slow internet connection and the need to use enough internet quota when using various applications such as Zoom, Google Classroom, WhatsApp, and so on, the utilization of the optimal streaming radio can be one of the solutions that can solve the problem. Radio streaming is a merging of old technology (radio) with new technology (internet) that can solve technical constraints of online learning as well as can improve conceptual skills (Ravenscroft et al., 2018). The use of streaming radio as learning media has several advantages including learning can be interactive, do not require a lot of internet quota, easy to use, lower cost of broadcast capable of recording, and can be combined with other media so that online learning can be effective and efficient to replace the conventional or face-to-face learning (Abrianto & Sitoppul, 2014; Ravenscroft et al., 2018).

In addition to streaming radios, audio teleconference usage as a cell phone can be an alternative to be used as a means of communication during online learning. Mobile phones can be a great choice for lecturers to deliver command assignments, control, and communicate with parents about student learning developments at home. According to Bali (2019), The advantages of cell phones are affordable, effective, efficient when used, wide range, communication can take more interactive even if it is within a long distance. But on the other hand, the mobile phone is unable to display the subject matter visually, there is a possibility that sounds less good, reaching only a few students in one phone and requiring a considerable amount of credit. But it can be minimized by using the phone package and time
efficiency when communicating so that the message that the lecturer wants to convey to all students is still acceptable.

Video recordings can also be used as a communication medium during the online learning period. Bali (2019) mentions that utilization of technological sophistication such as video recording can help carry out learning without direct face-on. Video recording can be used for all fields of lectures, for example in the implementation of practicum activities that require instruction from the lecturer. Besides, video recording can be combined with a video tutorial so that it is expected to facilitate the performance of student’s work during the practice of self-help in the home (van der Meij & van der Meij, 2016). Video recordings can also be used as teaching media, portfolios, assignments, exams, and student presentation projects. So the implementation of online learning can still be done well. Another alternative that can be used to overcome the constraints of online learning in addition to the three things above is the utilization of live television programs that broadcast the learning process. The government can cooperate with television stations to integrate the learning process with the live program. Such a program allows students to be able to follow the learning despite being in a minimal location of the internet network. Although on the other hand, this program can only apply to special learning such as public courses, this program can still be utilized as learning media (Bali, 2019).

To optimize implementation effectiveness and online learning applications, colleges and universities can consider the approach of multi-dimensional morphing. The multidimensional approach involves several strategies. The first strategy, lecturers can implement effective elements in the design and learning methods. The success of online teaching starts with good learning design. The design of the learning includes pre-enrollment information (learning programs or applications used and the period of learning), intensified design (learning outcomes, media, and social networking, relevant content), intervention (progress learning and alerts for low scores or missing assignments), formative and summative assessments, personalized support in the form of conferencing, social networking, and learning resources, as well as learner analytics (Tait, 2018). The second strategy, lecturers, and students can simulate the student learning experience. Simulated online learning experiences can support student learning experiences like a flipped classroom. A flipped classroom is a learning process where lecturers and students use online materials to set up an engagement and application class. The third strategy, community building, or study group can provide effectiveness and optimization in learning through an application. The fourth strategy, the follow-on support principle in the use of online learning applications in assignments can be applied to create online learning optimization (Andrade, 2016).

To provide solutions to the heaving interest and motivation of students, the lecturers can indirectly motivate students to try their power to obtain information from various learning resources. As Sianturi (2017) states that motivation is an encouragement given and that arises from within a person, in which case students are to conduct learning activities to achieve the desired learning objectives. Also, lecturers should be able to implement appropriate methods of online learning (Basilaia & Kvavadze, 2020). With the right methods given in the learning process, learning will make students eager (Panigrahi, Srivastava, & Sharma, 2018). Other efforts that can be done to increase the motivation of students in online learning is to give a spirit in the class that can be done in the form of images or text and voice messages, provide realistic expectations, as well as reward and praise to the students who excel (Sianturi, 2017).
During online learning for study from home, internet access is needed to access online learning media (Daniel, 2020). The cost that was charged to access the internet may vary depending on the provider that used it. Some students can buy their internet access quota but some students are unable to buy due to economic limitations. Some students who are not able to buy credit balance to buy internet access quota can be assisted by colleges and universities. It is also not a slight that some colleges and universities provide subsidies for the purchase of credit or internet data for its students. The amount of subsidies or assistance given is tailored to each college's ability. Kemdikbud (2020) stated that the saving of operational costs for education that was obtained during the study from home is expected to be used to help students and lecturers in the form of toll subsidies for online learning connection, logistics assistance, and health for the needy.

CONCLUSION

Based on the analysis of online learning implementation during the COVID-19 pandemic can be concluded that various applications can be used as communication media in online learning. The interpretation of student enthusiasm for online learning implementation is achieved that there are students who strongly support online learning policy, but on the other hand, there are students who are hesitant about the implementation of online learning and students who are less enthusiastic about online learning. Factors that are the cause of the lack of student enthusiasm for online learning include; the area where student residence has poor internet access, student financial skills, as well as convenience in the learning process. In the implementation, online learning has advantages and disadvantages. The advantages of the implementation of online learning policies include the flexibility of learning and the increasing interaction between lecturers and students, while the lack of application of online learning policies is limited internet access for lecturers and students because they are not able to facilitate themselves. The obstacles often faced by students during online learning are influenced by technical factors and non-technical factors. Technical factors are a factor that affects how a device works while a non-technical factor can be an individual's ability to develop individual human psychological conditions such as comfort in online learning, knowledge-absorption, physical conditions, interests, and individual motivations, as well as the family economic conditions affecting the ability to purchase internet quota. Some of the solutions that can be done to overcome the lack and obstacles of online learning are by utilizing alternative learning media such as the use of audio teleconference in the form of cell phone, video recording, streaming radio integration program for special learning, and the program of live broadcasts of television. These programs can be used by governments, especially the Ministry of Education and Culture, to overcome obstacles in the implementation of online learning. Online learning can run effectively when there is readiness from various parts of the government, institutions, learner, and student, so that the online learning process can run as well as expected.

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