The Effectiveness of Synchronous and Asynchronous for Online Learning at Vocational High School

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Abstract
The goal of this study is to characterize the implementation of the online teaching and learning process (Synchronous and Asynchronous learning), including supportive and barrier elements, students' experiences with online learning, and future expectations for participation. During the COVID-19 epidemic, students are after completing the process of introducing online teaching and learning. The investigation was conducted out at SMK Negeri 1 Tebing Tinggi, which is located in Tebing Tinggi. This study uses qualitative methodologies in its investigation. Teachers from SMK Negeri 1 Tebing Tinggi were employed as participants in this study. Semi-regular inquiries and replies, as well as taking images and assessing field outcomes, were utilized to report data. The COVID-19 epidemic has had a significant impact on education, particularly the teaching and learning process; the implementation, which was formerly done face-to-face, has now been switched to an online teaching and learning process (Synchronous learning and Asynchronous learning). The availability of modern devices such as computers and cell-phones are as well as data bundles and reliable internet connections. There are also certain barriers for instructors in implementing the online teaching and learning process, such as numerous complaints about acquiring internet quotas, and students who are more inclined or hooked to using smartphones for entertainment than for doing homework. It is believed that through studying in this manner, children would be able to practice responsibility and extend their understanding of how to use existing technologies in the future.
Keywords: Online learning, Synchronous learning, Asynchronous learning

INTRODUCTION

Learning and teaching activities that seek to educate students; in learning, there will always be a process of proximity between instructors and students; in Indonesia, learning techniques include meeting face to face (offline) and engaging between teachers and students study at school. However, the Covid-19 virus entered Indonesia in December 2019, causing a change in the Indonesian way of life, including education. As a result of the Covid-19 virus, the learning process that used to be carried out in schools, especially economic learning, had to be done at home using the online system (in the network). Furthermore, the face-to-face learning process in schools has turned into studying at home and replacing it with online learning to break the chain of spreading the covid-19 virus. This instruction was responded to by many schools, one of which is SMK Negeri 1 Tebing Tinggi, which issued a circular on alertness and prevention of the spread of Covid-19 infection at SMK Negeri 1 Tebing Tinggi. All schools is in Indonesia are holding home courses to prevent the spread of Covid-19.

Another form of learning that can be done in a covid-19 emergency is online learning. Online learning is learning using an internet network that has accessibility, connectivity,

flexibility, and the ability to generate various types of learning interactions (Joi, 2011). Information Technology Resources during the Covid-19 era played a large enough role so that many educational institutions invested in e-learning systems that allowed students to study online and access learning materials (Manaf, 2020). This online learning must also be supported by mobile devices such as cellphones, laptops, tablets to access information anytime and anywhere. Online learning has also become a demand in the world of education since the outbreak of the Covid-19 virus in Indonesia.

There are also research exploring the academics' perceptions on coaching English on line amidst the COVID- 19 pandemic. certainly one of them is a examine by Nuraeni (2021) locating that the English teachers have high-quality attitude on the usage of cell-assisted language studying in the course of their online teaching. cellular getting to know is effective due to the fact it is transportable, interactive and easy to get admission to. except that, different have a look at with the aid of Nugroho, Haghegh and Triana (2021) confirmed that the English teachers faced a few demanding situations in thier online studying, which includes lack of familiary in the use of virtual structures, lack of capability to present fast feedbacks to students' assignments and lack of students' motivation and engagement. furthermore, the take a look at with the aid of Yulianto and Mujtahid (2021) found out that the lecturers have issues on wearing out assessment check due to the relationship of the net, the assessment validity and the much less college students' enthusiasm.

The existence of this e-learning system allows teachers and students to communicate optimally (Noor, 2020). The process of exchanging ideas, sharing information, and discussing certain materials also can be completed through this system. Information technology in tertiary institutions adequately will support the success of the learning process, and student success in the learning process can be reflected in the way teachers provide material through e-learning. Changes in learning during this pandemic are imperative, where the use of technology is indeed more efficient, but learning outcomes will be hard to achieve, depending on the resources of each university. Combining the e-learning system with ordinary learning becomes a hot topic in the learning process, the seriousness of students in facing change is a success factor in learning, and the methods applied by the teachers will also be successful in achieving this learning.

In the bold learning system, the researcher discusses 2 methods that will be used when learning the bold economy, namely Asynchronous learning and Synchronous learning. Asynchronous learning is that students can interact with each other with the material that has been provided at the time they specify. The Asynchronous learning stage itself is that the economics teacher uploads assignments and materials at any time, and other students can work on and study the material that has been given by the economics teacher and students can engage with others when the teacher has started the learning process in the application. In asynchronous learning, students who lag behind or cannot follow the teaching and learning process can still read the results of the previous discussion which is commonly referred to as posting (Darmawan, 2018). Examples of Asynchronous Learning applications are Google Classroom, Telegram, WhatsApp. While the second method is Synchronous Learning which is the opposite of Asynchronous Learning. The Synchronous Learning method requires teachers and students to take advantage of the e-learning system simultaneously. For example, zoom meeting and google meet applications, these applications fall into the Synchronus Learning category. Synchronous Learning is the existence of an instructor who aims to provide verbal instructions at any time during the learning process (Alisar, 2014).

The concept of online learning has a design similar to e-learning, which is both using internet technology in learning. According to research conducted by Alisar. During the implementation of the online teaching and learning process on economics subjects, teachers at SMK Negeri 1 Tebing Tinggi often combine two types of bold learning, namely Synchronous and Asynchronous, with the hope that students have the flexibility of time to study and can meet face-to-face via online with teachers and other students. . The advantages of the bold teaching and learning process in economics subjects (Synchronous Learning and Asynchronous Learning) are the duration and zone for learning, can overcome problems regarding distance, there are no boundaries and can cover field areas (Widodo, 2011). In addition to the advantages of the online teaching and learning process, the online teaching and learning process in economics subjects (Synchronous Learning and Asynchronous Learning) also has drawbacks. The shortcomings during the teaching and learning process in the network, among others, it is difficult for students to be able to concentrate on the teaching and learning process in the network because of the unsupportive home atmosphere, dependencies on data packets or WiFi which are the liaisons for the teaching and learning process on the network and the presence of several forms of interference that can cause problems, and others. During the teaching and learning process, countless students complained about some of the problems they experienced during the learning process at home, including many assignments and teachers who had not been able to develop in the use of technology (Hilna, 2020).

Based on the problems that have been described previously, the purpose of this study is to be able to provide an overview of the teaching and learning process in the network using the Synchronous Learning and Asynchronous Learning methods. aims to make it easier for teachers to deliver material to students in the midst of the covid-19 pandemic by remaining productive even though there are several obstacles that hinder learning with the existence of technology that makes the learning process during the pandemic more effective. The hope of writing this scientific article can be used as a reference for teachers in facing the challenges of online learning during the pandemic so that learning objectives can be achieved optimally.

RESEARCH METHODS

The research approach use is qualitative research in the form of descriptions and descriptive analyses, with no numerical data. The information gathered in this study pertains to the teaching and learning process of the online system (Synchronous Learning and Asynchronous Learning) at SMK Negeri 1 Tebing Tinggi, as well as media and human resources who support the teaching and learning process system in the network. The steps of data collection, according to L. D. Prasojo, are split into four categories: 1. observation, 2. interviews, 3. documentation, and 4. audio and visual tools (Prabowo, 2020). It was discovered that the data collection methods must go through some of the most crucial components known as research methodologies. 1. determining the origin and form of the data, 2. people as key and supporting instruments, 3. participating research, 4. interviews, 5. field reviews, and 6. data utilization are the six components of research procedures. Observation, interviews, recording, and data collecting with the use of technology in the form of audio visual instruments were employed as methods. The methods utilized in this study may be outlined, including: 1) Interview, which is a report-gathering approach in which researchers conduct direct interviews with the individual in question. In order to support the effectiveness of online learning systems (both synchronous and asynchronous) and their problems during the COVID-19 pandemic, researchers conducted interviews with relevant human resources. The interview that was utilized consisted of questions that were asked in a conventional manner (Moleong, 2017). Not only must the

interview be conducted in standard English, but it must also be conducted in depth. With the goal of resolving the issues raised, a strategy is devised during the interview that may later be utilized as a guide to focus on the study topic. In this study, interviews were performed freely but yet under control and within the purpose of the study, which meant that the interviews were conducted freely with the goal of not being too serious or apprehensive in order to get more extensive and in-depth data. Observation is the second step. It was carried out by researchers who went out to the field at SMK Negeri 1 Tebing Tinggi with the goal of surveying and gathering information. This study was carried out to determine the media used in the online teaching and learning process, as well as the supporting human resources involved in operating these media, as well as the effectiveness of the implementation of online learning systems (both synchronous and asynchronous), as well as the challenges faced during the COVID-19 pandemic. Everything that has to do with field observations must be documented. The recording is done by just including keywords in the form of a schema, followed by a description of the new report's results. All actions that transpired throughout the research, including human resources and supporting media in the execution of the online teaching and learning process, are documented in this field note. This field note is written in the form of an explanation that includes media compatibility research up to the point of supporting human resources preparation. The effectiveness of synchronous and asynchronous online learning technologies is as well as their limitations, during the COVID-19 pandemic. The time spent in the recording stage is counted from the start of the study to the end of the research. The goal of recording and calculating this time is to identify mistakes and ensure that the findings of one data study and the next are identical. The outcomes of flawless and full field notes are the combination of field notes with the findings of researcher talks while monitoring learning activities3) Documentation, qualitative research allows for the collection of data through the collection of documents, such as planning papers for assessing the teaching and learning process (Moleong, 2017). This technique is used to collect data on the success of using online learning tools (both synchronous and asynchronous) and the problems faced by teachers at SMK Negeri 1 Tebing Tinggi during the COVID-19 pandemic. 4) Data Validity: Starting with data reduction, producing data presentations, and drawing conclusions, the process of verifying qualitative data must be carried out from beginning to end in data collecting. To obtain the validity of the data in this study, the triangulation method was used. The triangulation method is a technique carried out with the aim of developing the validity of the data in qualitative research. The triangulation method is a technique based on many points of view. This study uses data triangulation where the source refers to quoting data used from various different data sources. This means that such data will be more valid when viewed from several different data sources. Therefore, data triangulation is often referred to as source triangulation. 5) Data analysis technique is existing data from the field in the form of questions and answers, observations and taking pictures that require data analysis and interpretation to realize the demands of the research objectives and other related information. To obtain the validity of the data, the researchers made a small note of the results obtained in the field which were then simplified and refined, then coded the data and problems. Data coding is obtained from the results of discussions in the form of criticism and suggestions, the appropriate data is distinguished from data that is not in accordance with the research problem by using a code. The analysis of the data used went through several stages, including the first, namely the stage. Qualitative data analysis can be carried out at one time, namely the data collection process, the next is data interpretation, and the last is writing other narrative analyses. The process of deciphering qualitative data is simultaneously with other processes even at the beginning of the research.

RESEARCH RESULT AND DISCUSSION

In this case, the researcher will explain the research document from the results of observation of data in the field for the previous 3 months. Retrieval of the required data is carried out by means of in-depth question and answer between the researcher and the person concerned, direct research carried out in a sustainable manner in specific sections, literature learning and data learning in sections related to the effectiveness of Synchronous learning and Asynchronous learning online learning systems during the covid pandemic. - 19 at the teacher of SMK Negeri 1 Tebing Tinggi. The documents obtained culminated from a variety of proven sources such as leadership, teachers, students, human resources related to the teaching and learning process of online methods, data and various other supporting data related to the effectiveness of online learning systems (synchronous and asynchronous).) and its challenges during the COVID-19 pandemic. The decomposition of this data is to respond to research problems that grow heuristically in the field.

The complete description of the results of this study leads to the formulation of the problem. There are 3 steps before carrying out the learning process, namely: planning, implementation, and evaluation. First, planning. Before carrying out the learning implementation process there must be an agreement that is equally accepted by students and teachers, as well as the desired media that is in accordance with the capacity of students and teachers. Because if the media used cannot be accessed or cannot be used optimally by both parties, then learning will not be able to run effectively, seeing the importance of planning, both parties must both know what media can support when used for learning (Yudha, 2014). For example, when the teacher easily accesses the zoom media but the students cannot access it, there will be a learning disability. The second is implementation, in this section the teacher provides learning to students using 2 learning methods, namely Synchronous learning and Asynchronous learning. In the learning process the teacher observes during the teaching and learning process of students where there are several kinds of student activities, in addition there are several obstacles in the synchronous learning process such as student logins who are always late, signal problems, the absence of cellphones or laptops as learning media materials , and also has no internet quota. Another obstacle that exists in the Asynchronous method is that many students do not understand optimally because the guidance provided is still not detailed. The third is evaluation, in this case the teacher assesses the performance of the students by looking at their daily activities and the tenacity of students in undergoing the teaching and learning process of methods in the network of economic subjects with two methods, teachers find many misunderstandings in terms of working on assignments and daily tests, because there are still many obstacles in understanding the learning method.

Discussion

From the point of view of research using data accumulation methods including questionnaires and interviews that have been conducted on teachers at SMK Negeri 1 Tebing Tinggi about online learning methods (Synchronous and Asynchronous), the readiness of teachers or teachers in schools and supporting factors and barriers to teachers while carrying out the teaching and learning process. in the network by using Synchronous and Asynchronous methods during the COVID-19 pandemic, it has a huge impact on education. The COVID-19 pandemic has made teaching and learning less effective, the teaching and learning process which is generally carried out directly between educators and students in the classroom, during the pandemic the teaching and learning process has turned into an online learning process. Educators state that students in the online teaching and learning process still have several obstacles (Wahyu, 2014).

The involvement of students is also not entirely involved in the teaching and learning process. Another impact that is experienced by students is that they feel bored with the online teaching and learning process because students who usually relate to their peers, play games, act, joke directly with friends and teachers, and lately have to stay at home because this covid-19 outbreak. So the teacher took the initiative to provide several methods in interesting learning with the aim that students did not feel bored, including using 2 methods, the first method is synchronous learning where with this method the teacher invites students to discuss via zoom meeting or google meet.

The advantage of this method itself is that it can deal face-to-face between teachers and students and finally there is supervision in the learning process, just like offline schools we can meet face to face, it's just that what distinguishes this learning method is assisted by technology media. However, there are some disadvantages as well, including being time bound. Meanwhile, for the Asynchronous learning method, the students are given materials and assignments by the teachers through the google classroom application media. Which has advantages including time flexibility, namely students can get reports according to their free time, have time to digest information and put it in the right context and perspective, and students can develop materials that have been delivered by the teacher so that they know more broadly. It has a weakness, namely the lack of direct interaction between teachers and students. For sending assignments to students, teachers usually use the help of the WhatsApp and Google Classroom application media. And for the evaluation method carried out by the teacher during the online teaching and learning process, the method also has a method similar to the evaluation of the teaching and learning process which is usually during offline or face-to-face learning.

Regarding teacher readiness at SMK Negeri 1 Tebing Tinggi, this is also less than optimal because it is controlled by several reasons, namely the training time is too short at school. Which causes a lack of understanding of teachers or instructors in using various media that support virtual learning, so that it has an impact on students. Another factor is Self Directed Learning (SDL), namely the strength of a person holding the idea of being obligated to his duties along or not with other people who overshadow the perspective of understanding, working, judgment and interpersonal skills. Some indicators that show the weakness of SDL are difficulty managing time because they have to study from home, being distracted by activities at home while teaching, lack of confidence in using online learning media applications, and not being able to enjoy new challenges at work.

The supporting factors for the implementation of online teaching and learning carried out during the COVID-19 pandemic include technological media such as laptops and cellphones, data packages and smooth internet networks. There are also some inhibiting factors for teachers in implementing the online teaching and learning process, including many complaints in purchasing internet quota, students are more inclined or addicted to using cellphones for the sake of playing rather than for the benefit of their learning in doing assignments. The learning process during the pandemic which is still not over will pose many challenges in the future, because teachers are required to not only master technology well, but teachers are required to innovate technology-based learning where the teachers are mainly elderly.

This is what the school must pay attention to in this case train teachers to be able to innovate online learning. Meanwhile, for students, the challenge that must be faced is the problem of boredom with the teaching and learning process methods that are less interesting and so-so that students do not have a sense of wanting to develop the material that has been given. Another challenge for students is that economically, students get limited quotas and technological tools. Because many parents of students have been affected by the pandemic. So

many parents have lost their jobs. So it is difficult to meet the needs of their sons and daughters in learning. Next, the problem does not always run smoothly, but there are twists and turns or several obstacles which in this discussion the researcher tries to provide solutions to problems that occur during the teaching and learning process, for example, if students experience delays in the synchronous method, the school can help provide tools. the technology needed. Meanwhile, for obstacles to learning the asynchronous method the teacher must provide guidelines or detailed learning steps so that students can understand and learn effectively even though they are not face to face. Regarding the economic constraints faced by parents and students, the researcher provides alternative suggestions for schools to provide assistance in the form of internet quota subsidies for students in need.

CONCLUSION

From the discussion, it can be concluded that the online learning of economic subjects carried out during the covid-19 pandemic made students feel very bored and bored. So the teacher took the initiative to provide several methods in learning, namely by using the Synchronous learning and Asynchronous learning methods where Synchronous learning where the level of effectiveness has been quite improved, but there are some things that must be observed from the teacher, namely teachers are required to not only master technology well, but teachers are required to to innovate technology-based learning where the teachers are mainly elderly.

Meanwhile, from the students, the challenges that must be faced are the problem of boredom with the teaching and learning process methods that are less interesting and so-so that students do not have a sense of wanting to develop the material that has been given. Regarding the readiness of teachers or lecturers at SMK Negeri 1 Tebing Tinggi, this is also less than optimal because it is influenced by several factors including the training time that is too short in schools and other factors, namely Self Directed Learning (SDL). The supporting factors for the implementation of online teaching and learning carried out during the COVID-19 pandemic include the existence of technological media such as laptops and cellphones, data packages and smooth internet networks. There are also some inhibiting factors for teachers in the implementation of the online teaching and learning process, including many complaints in purchasing internet quotas, students are more inclined or addicted to using cellphones for the sake of playing rather than for the benefit of doing assignments.

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