The Effectiveness of E-Learning by Using Online Media During the Covid-19 in English for Engineering Class

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ABSTRACT

In this study, the researchers intend to describe learning effectiveness by using online media during the Covid-19 in English for Engineering class. This study was descriptive quantitative on evaluation of the learning process during the Covid-19 Pandemic. Thirty students in the English for Engineering Subject course at the Ambon State Polytechnic were randomly selected with homogeneity consideration. Questionaries and observations were applied to gather the data. The result showed that 20.3% of students thought that learning English for Engineering with online learning was very effective, 52.7% considered it effective, 15.8% adequate, 10.2% thought ineffective, and only 1% considered it very ineffective. Finally, from the observation and students' recommendations in the questionaries, we found several inputs. First, the lecturers should share the material a day before the Zoom meeting. Second, the Zoom meeting should be allocated for lecturers to provide explanations only and follow it up on Google Classroom for questions and discussion. Third, the lecturers are asked to reduce the tasks. Fourth, tasks should be variedly designed to avoid plagiarism. Last, the lecturer should give feedbacks related to the tasks and return them regularly to the students.

Keywords: *Effectiveness of learning, online media, Covid-19*

1. INTRODUCTION

The world seems to be in a difficult situation due to the Covid-19 pandemics affecting all aspects of life. Humans as social beings, who find it natural to gather and interact with one another such as fulfilling the needs of life (work), forming social groupings among others, performing an organization, have suddenly been forced to keep their social distance from social groups, community, neighbors, friends and even the environment of service. The Covid-19 is deemed responsible for all these troubles.

The Covid-19 causes disorders of the respiratory system, infections of the lung, and even death. This virus quickly attacks anyone from the older groups, adults, even children. The virus has spread throughout the world. In the Asian Continent alone, on January 29, 2020, the Covid-19 reached the Middle East and inflicted four people in a family. In Europe, France became the first country to confirm three cases of Covid-19 on January 25, 2020. In Australia, on January 25, 2020, a Wuhan man who flew to Melbourne was confirmed.

Furthermore, in Africa, the Algerian Ministry of Health, Population, and Hospital Reform reported the first case of Covid-19 in his country on February 25, 2020. The virus has taken lives as well. The US, for example, recorded the largest population death rate in the world in a day, reaching 2,000 people on April 10, 2020. The Covid-19 cases have also begun to spread to other parts of the country.

It is well accepted that one of the ways to prevent the Covid-19 from spreading is to restrict the public movement or interaction known as physical distancing. However, the physical distancing and Work From Home (WFH) policy can hold up or decrease the growth rate in various aspects of life. The decision made by the government to contemporary close schools and universities results in moving the teaching and learning process from schools/universities to home or WFH. This WFH policy creates new problems. Indeed, WFH means to work from home, which means all the activities should be done from home. The WFH policy is stated in the Circular Letter issued by the Minister of Administrative Reform and Bureaucratic Reform (PAN & RB) Number 50/2020 concerning the Second Amendment to the Circular Letter of the Minister of PAN & RB Number 19/2020 concerning Adjustment of the Work System of State Civil Apparatus (ASN) in Efforts to Prevent the Spread of Covid-19 in Government Agencies [1]. As an ASN, teachers, and lecturers have to comply and run their classes online. However, the implementation of the online learning process faces several obstacles. One of the obstacles is teaching English for civil engineering classes.

Implementing online media in teaching is one of the best solutions when face-to-face learning is shifted to multimedia learning. Zoom and google meet are popular choices. All activities such as lectures or seminars can be run via Zoom and google meet. However, students from low-income families should be assisted by providing internet data to join the online classes. Furthermore, students or lecturers who are not familiar with the informational technology (IT) applications should be more responsive.

On the one hand, it has been reported that students find online lectures ineffective for various factors. For instance, they have troubles with networks or internet reception and costs. More importantly, it is said that knowledge transfer does not work optimally. On the

other hand, lecturers also feel that the applications used limit their teaching routines by comparing it with meeting the students in their classroom. The mentoring process is also carried out online. In short, students and lecturers find that teaching and learning processes do not run as they have expected.

However, online learning by online media gives many advantages over conventional classroom learning [2]. Online learning, for instance, can also provide interactive ways and are easy to understand. In terms of time, students have plenty of time to discuss and find the latest information on the internet. In addition, the advantages of the online learning model can be applied to perform the teaching and learning process without being limited by space and time [3]. It can use various sources available on the internet, allowing teaching materials to be relatively easily updated by lecturers. Finally, online learning can condition students to be autonomous learners. [4].

A previous survey (the result of which is computer-readable) conducted by the researchers involving sixty-three respondents in March 2020 shows that a percentage of the personal risk of spreading Covid-19 falls into three categories: (1) people with low-risk status were 49 (78%), (2) people with moderate risk status were 9 (14%), and (3) people with high-risk status were 5 (8%). This data tracking was one of the considerations the Ambon State Polytechnic imposed the WFH policy. This study also follows Presidential Decree No. 7 of 2020 and the Director's letter from Ambon State Polytechnic (Number; 405/PL13/KL/2020) about online learning [5].

Based on the situations described above, we conducted research on the teaching and learning of the English for Engineering class using online media. This is in response to the pandemics. This study uses descriptive and quantitative, involving 30 students sitting in the English for Engineering course at Ambon State Polytechnic. These respondents were randomly selected by considering their homogeneity.

2. FINDINGS AND DISCUSSION

2.1. Sample Character

2.1.1 Students' Characteristic based on Gender

There are 30 students as respondents in this study, consisting of 67.3% female and 32.7% male (see Figure 1). Most students live outside of Ambon city (68.7%), while the rest (31.3%) live there.
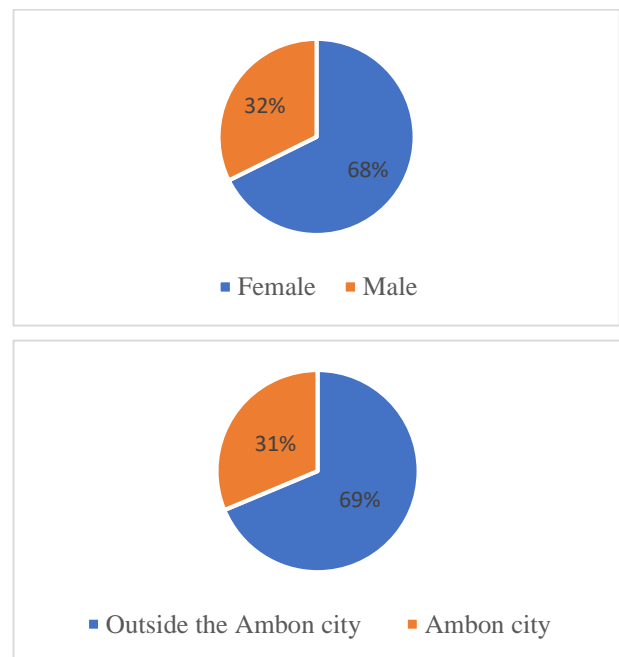

Figure 1. Students' Characteristic based on Gender and Living Area

The data above show that online learning is mostly followed by students who live outside Ambon city. They could participate in online learning by searching for solutions if they find trouble with signals.

Furthermore, the WFH (Work from Home) regulation strongly required the students to spend a lot with their handphones and laptops [6]. They relied on these gadgets for studying. It is assumed that they used these gadgets to open their social media, WhatsApp, and games.

2.1.2 Most done activities during WFH

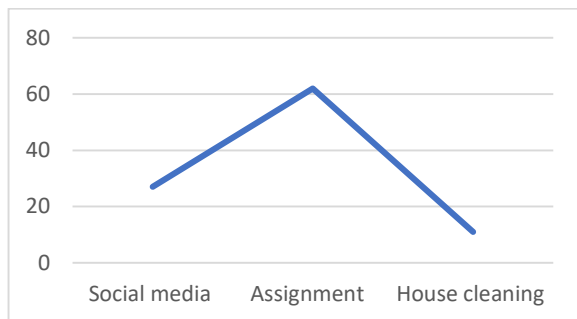A number of activities during the WFH are as follow:

Figure 2. Most Activities during WFH

Cell phones and laptops were used as tools for online learning with various online media, making students spend hours in front of these gadgets. It is found that for each assignment they completed for each course, they indulged themselves with some entertainment by opening social media and playing games; others did household works. The percentage of the students' activities is presented above. In line with this, the Indonesian Internet Service Providers Association (APJII) data reported that Internet users in Indonesia from 2015-2016 reached 88.1 million people. Using gadgets for hours and hours may give negative impacts such as headaches and eye irritation.

2.2. Overview of the English for Engineering course

2.2.1 Most Preferred Learning Model

The data describe that 32.7% of students prefer online learning, and those who opt for blended learning

models are as much as 21.5%. However, most of the students, or equal to 45.8%, prefer to do face-to-face learning.
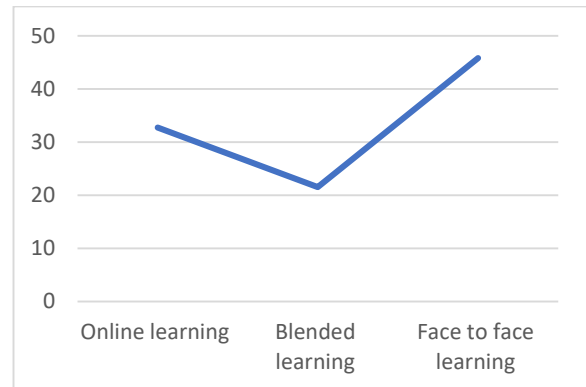

Figure 3. Most Preferred Online Media

Online media offer solutions that can be chosen so that the teaching and learning process can continue. The data above show that students are interested in using online media for learning. They feel that online media make learning easy, effective, and efficient. Furthermore, learning in the classroom is limited by time and demands emotional dan material readiness. In terms of time, the tasks given online can be more flexible. Students can have discussions and look for sources from the internet so that they become independent learners. In other words, the students find new experiences and challenges through online learnings compared to learning in the classroom [7]. Flexibility and unlimited time to learn allow students to decide the right time to learn based on their interests, which helps them understand the assigned learning materials.

2.2.2 Most Preferred Online Media

The most preferred online media used by students, from most to least preferable, are Google Classroom (46%), WhatsApp Group (21%), Zoom (15%),

YouTube (13%), and Instagram (5%). They say they choose these media because they are user-friendly and more practical. In addition, these social media are more economical as they do not use up too much of their internet quota. The study also found that the students still want to have face-to-face meetings online using YouTube and Zoom. They remain worried about their internet quota consumption and limited network access. For this, they hope the government provides online facilities that are effective and support their needs. The percentage of the online media used can be seen below:
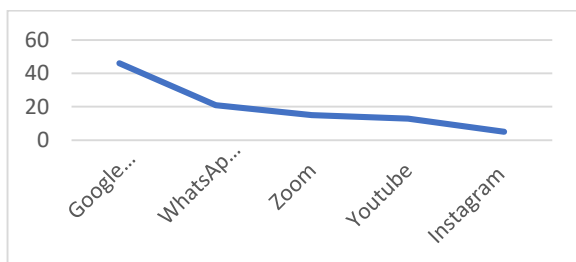
Figure 4. Most Preferred Online Media Used

Online learning significantly provides students with more meaningful learning experiences [8]. In a conventional class, the students usually only try to memorize information or new subject matter without connecting it to concepts or other things in their cognitive structure. In contrast, in online learning, the students connect new information or subject matter with concepts or other things in their existing cognitive structure. They find much information on the internet and discuss it with friends at a very flexible time. This is what is called meaningful learning. Furthermore, online learning, for instance, via Google Classroom, gives the students new experiences automatically. In addition, conventional learning poses fewer challenges. It is a real burden because lecturers who

teach digital multimedia should prepare and set the appropriate approach and media for online learning. Lecturers are strongly required to use online media that is easy for the students to access and implement. It is also possible to combine two or more media because some media may have features that are absent in the other media [9].

2.2.3 Most Preferred Learning Method.

In online learning, the proper method is expected to determine the learning outcomes and, ultimately, the quality of graduates. This is in accordance with outcome-based education. Below is a real picture of the most popular online learning methods presented in order of the students' preferability:
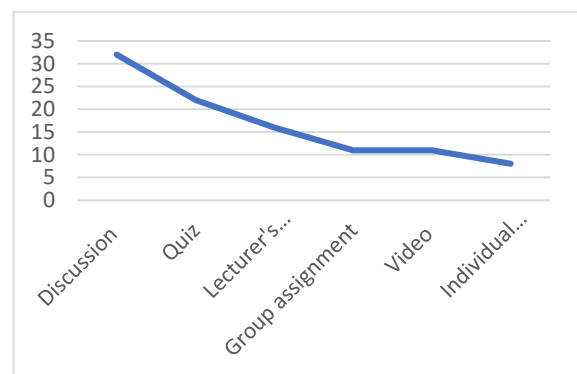
Figure 5. Most Preferred Learning Method.

The figure above shows that the discussion method (32%), quiz (22%), and lecturer's explanation (16%) were the first three choices method preferable by the students. Meanwhile, group assignment (11%), video (11%), and individual assignment (8%) are the least chosen methods. Online learning success depends on several integrated factors, including the students, lecturers, learning media, and technology. Online learning offers assignments or online lectures, which are one-direction learning methods, whereas, ideally,

learning must also be a two-way or an interactive engagement between lecturers and students. During the Covid-19, education in Indonesia was forced to be ready to provide successful online learning services. Despite so, many learning methods apply the one-way, the pattern of which consists of providing materials and tasks online. This implies that the two-way or interactive learning method is not yet used at its best. The findings show that in the English for Engineering course, the lecturers tended to build the two-way interaction between lecturer and students and between students and students. This suggests that the students need a more practical class rather than a theoretical one. The ideal learning process is fully oriented to students' ability to solve problems quickly, think critically, collaborate, and communicate using digital technology as media [10].

2.2.4 Online Learning Effectiveness Assessment

The pandemic situation has forced online teaching and learning to use online learning media. Online learning media can be defined as equipment with a device that lecturers can operate and control. In this way, they can access what they need. For instance, they can download and upload resources for listening, reading, and speaking skills. The effectiveness of online learning during a pandemic can be seen from the assessment aspects and students' perceptions. The rate of teaching effectiveness can be analyzed through assessment tests and students' perceptions [11]. The following shows the percentage of the effectiveness of online learning using both synchronous and asynchronous media.
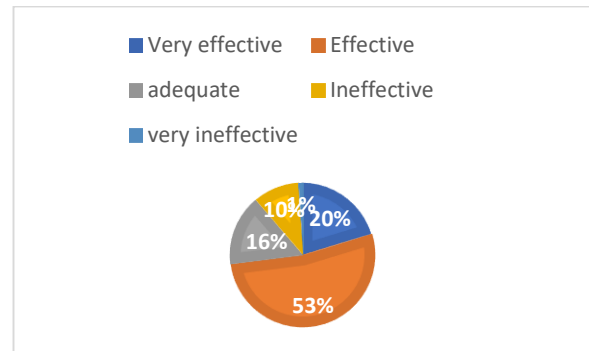

Figure 6. Perceptions of Online Learning Effectiveness

Media can help lecturers motivate students to be more enthusiastic in receiving all the material being taught [12]. As the pandemic remains, lecturers implemented online media so that learning can continue successfully. Lecturers are strongly required to be more innovative and creative in implementing online media so that the students find the classes interesting, which, in turn, help them understand the materials that have been taught [13]. The findings show that more than half of students consider online learning effective (53%), and 20% consider it very effective. Another 16% think that online learning was sufficient, while only 10% consider it ineffective (10%). Only one student finds online learning very ineffective (1%).

2.2.5 Students' Annotation

In this study, we also asked students to recommend what can be done to improve online learning. For this, they come up with five frequent recommendations. First, the lecturers should share the materials a day before the online meeting. The students ask for this because they need to discuss it before the Zoom meeting starts. Students can download the materials anywhere and anytime, even if some cannot attend the class on the schedule. Second, the Zoom meeting

should be allocated for the explanation only, and it should be followed up on Google Classroom for questions and answers sessions. This particular request is related to the internet service the students have. They argue that internet quota and signal are the main problems in online learning. The Zoom can be applied to a specific topic that needs explanation in real-time [14]. Furthermore, Google Classroom is used to share the teaching materials, tasks, and students' attendance. They may access and download all of these materials every time. Third, they suggest that the lecturers reduce the tasks as they are simultaneously assigned tasks by the other lecturers from the other courses. In this pandemic, online learning is applied in all the courses. Therefore, it is not unique to our English for Civil Engineering course. All subjects come with tasks, making the students use their cellphones more often and longer as they browse the internet to do their assignments. They say that they experience physical problems such as eye fatigue, headaches, and psychological burden as they want everything to end soon. Fourth, the tasks should be designed variedly to avoid plagiarism. A load of tasks assigned in each course becomes one of the reasons they did plagiarism. In addition, the absence of direct supervision coupled with similar tasks makes them choose to plagiarize the tasks they submit. Fifth, the lecturers should give feedbacks related to the tasks and return them regularly to the students. The tasks are distributed and submitted online, resulting in lower face-to-face interaction or communication between lecturer and students [15]. One of the consequences is that the students become less disciplined and inconsistent in doing their assignments. In this case, the lecturer's detailed

checking and feedback on all tasks are strongly required.

3. IMPLICATIONS OF FINDINGS

Online learning during Covid-19 is undoubtedly challenging for both students and lecturers. The outbreak has forced students who were used to face-to-face learning to shift to online learning using digital media. The findings elucidate that lecturers are encouraged to prepare and select the best method and media for their online learning. Furthermore, lecturers should use and combine available media that are easy for the students to access. In addition, the media must be an effective tool both technically and economically [16]. Finally, the particular problem the students in online learning frequently face is related to the internet reception and quota. The lecturers and educational institutions or the government should pay attention to these particular problems. Without them, online learnings are not possible to do.

AUTHORS' CONTRIBUTIONS

Our team research consists of four lecturers, and all of us fully participated in collecting the data for one semester. We first conducted the internet survey to draw the personal risk of spreading Covid-19 at Ambon State Polytechnic. Second, we reported the survey results to the Director of Ambon State Polytechnic. This present study is a continuation of the project and aims to determine the effectiveness of online learning at our campus. It is expected that this study can provide a scientific basis to create new policies regarding online learning.

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