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Facebook Live through Zoom as Alternative Online Learning Media During COVID-19 Pandemic

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Abstract: Facebook Live through ZOOM as Alternative Online Learning Media During the COVID-19 Pandemic. Purpose: to evaluate the use of Facebook Live through ZOOM as an alternative online learning media during the COVID-19 pandemic. Methods: A survey in the form of a Google form was given to 254 student respondents whose data was further supported through interviews and student assignment scores. Further data analysis followed the procedure of Miles, Huberman, & Saldana (2013). Findings: Most students of Politani Kupang recommend using Facebook Live via ZOOM because it is easy to use, low on packet and doesn't require a very fast network connection. Conclusion: Facebook live through ZOOM can be used as an alternative online learning media in accordance with the characteristics of students who have limited network connections and internet data packages.

Keywords: facebook live, zoom, online learning media, covid-19 pandemic

▪ INTRODUCTION

The spread of the COVID-19 disease has been widely impacting and seen in various facets of people's lives. This disease is caused by infection with the SARS-CoV-2 virus which started in Wuhan, China in December 2019 ("WHO Western Pacific | World Health Organization," 2020). The symptoms it causes vary from the mildest, such as discoloration of the skin and nails and loss of the sense of smell and taste to the most serious of shortness of breath, chest pain and loss of the ability to move and speak (CDC, 2020). Currently (starting February 2, 2021), the infection rate for COVID-19 is very high with 103 million people who have been confirmed positive with a death rate of 2.24 million people ("COVID-19 NTT - Sebaran Data," 2021).

In Indonesia, the beginning of the spread of COVID-19 can be traced since March 2020 by a Japanese citizen who took a tour to Indonesia and transmitted it to patient 01 and then to his mother (patient 02) (Media, 2020). Since then, cases of transmission have increased, which has now reached 1.17 million people with 30.976 people declared dead ("Virus corona (COVID-19)," n.d.). Various attempts have been made by the government to reduce the rate of spread of this disease. The most dominant effort is to implement Large-Scale Social Restrictions (PSBB) which prohibit large mass gatherings and even temporarily 'lockdown' or lock down public places. This of course has a very significant impact on the national economy (dob, 2020). The Central Statistics Agency (BPS) noted that Indonesia's economic growth in the second quarter of 2020 experienced a deficit of 5.32% (Elena, 2020). The systemic impact can also be seen in the labor sector due to the fact that many companies have made efficiency so that they lay off and / or terminate their employees (PHK). The SMERU Research Institute reported that the Open Unemployment Rate (TPT) increased by ± 1.5% to range between 6.17 - 6.65% in March 2020 (Rahman, Kusuma, Fatah, & Arfyanto, 2020). In addition, it also has an impact on the education sector where all teaching and learning processes are increasingly transferred

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into the form of online learning or what is often called online learning. Regarding this, many are concerned about the increasing gap in education between urban and rural communities because online learning mechanisms have not been able to reach all levels of society (Media, 2019). Several supporting facilities are required to carry out the learning process like this, including a good internet connection, the availability of sufficient internet data packages and a mobile phone that can be installed with the relevant teleconferencing media application.

The province of East Nusa Tenggara (NTT) is not much different in the impact that the disease is currently experiencing throughout Indonesia. In the education sector, based on the instructions of the Governor and the Mayor, schools are still prohibited from conducting face-to-face learning (learning outside the network). Many institutions are temporarily closed and are carrying out all their activities, including online learning. Kupang State Agricultural Polytechnic, which is a state vocational institution in NTT, is also one of them. However, in contrast to other institutions, almost all students come from families with lower middle class economies. This of course will be a limiting factor for teaching staff in utilizing various learning technologies for the delivery of effective and efficient course materials like offline learning (offline or offline learning) in general.

Currently, many social media applications have been used so that the teaching and learning process can continue. The Facebook social media application is one of the most commonly used to connect and share information with one another and is also used in online learning. This media is also considered "packet friendly" because it does not require a lot of data or an internet connection that has to be very fast or good. It can even be used in conditions of no internet data ("Facebook Free") although there are some features that will be limited later. Live recordings that we do on Facebook will also remain stored on the wall page so that it will be more practical to save all our lecture recordings for students to watch over and over again. However, the most widely used media in online learning today is ZOOM which is equipped with various features that can support online learning, such as: the ability to share screens, annotation features and a whiteboard (whiteboard). However, to use it requires a good internet connection with a lot of data packages. This is the main obstacle because several supporting factors are needed as previously described above ("Jumlah Pengguna Facebook Tembus 2,7 Miliar Halaman all—Kompas.com," 2020; "Zoom," n.d.).

Based on the description of the problems above, the author has taken the initiative to conduct classroom action research (PTK) with the title "Using Live Facebook through ZOOM as an Alternative Learning Media During the Covid-19 Pandemic". In this case, the authors combine the use of two media, namely Facebook which is the most widely used social media by students and tends to be 'package friendly' and ZOOM because of its various features that can support the teaching and learning process online. It is hoped that this research can open our minds about the existence of alternative choices of learning media that are in accordance with the characteristics of students as described above, for the sake of an effective and efficient online learning process, especially during the current pandemic.

▪ METHOD

Research Settings

The research was carried out during the learning of the odd semester of the 2020/2021 academic year (August - December 2020) for the Basic Biology course. Learning is carried out online using the Live Facebook application through ZOOM for

semester students from 6 study programs, namely: Animal Feed Technology (TPT), Animal Production (Proter), Animal Health (Keswan), Forest Management (PH), Forest Resource Management (MSDH), Aquaculture Technology (TBP) semester I and III.

Research Procedure

The research procedure carried out by the author followed the Classroom Action Research (CAR) method according to (Kemmis, McTaggart, & Nixon, 2013), namely as follows:

Planning (Planning)

After collecting various information, especially from students, the writer can identify and limit the problem to be studied. Furthermore, this is used as the main basis for planning the solutions offered, namely: the use and utilization of Live Facebook through ZOOM as an alternative to online learning during the COVID-19 pandemic.

Previous students have joined the Politani Kupang Semester I Student Facebook group for 2020/2021 during the Student Orientation period which is conducted online. This Facebook group is used by the author as an online learning medium for Basic Biology courses.

Implementation of Actions (Action)

This PTK is carried out during the odd semester of the 2020/2021 academic year which lasts for 4 months from August to December 2020. The subject taught is Basic Biology which is the basic course at the relevant institution, Kupang State Agricultural Polytechnic. Students being taught are semester I from 3 majors (7 study programs), which are described as follows:

1) Department of Animal Husbandry
a) Animal Feed Technology (TPT) Study Program
b) Animal Production Study Program (Proter)
c) Animal Health Study Program (Keswan)
2) Department of Forestry
a) Forest Management Study Program (PH)
b) Forest Resources Management Study Program (MSDH)
3) Department of Fisheries and Maritime Affairs
a) First Semester Aquaculture Technology Study Program (TBP I)
b) Third Semester Aquaculture Technology Study Program (TBP III)

Because it is done online, the author does not carry out lectures according to the specified schedule but is based on an agreement with students regarding the day and time of the lecture. The author is connected using ZOOM, while students watch lectures via Live Facebook which is connected by ZOOM.

Observation (Observation)

Observations are made during online lectures where the writer acting as both the teaching staff and observers observes the smooth process of online learning using Facebook Live through ZOOM. The aspects observed included sound quality (audio), image quality (visual), smooth student connections and use of internet data packages.

Reflection (Reflection)

After all data has been collected during the lesson, an analysis is carried out to evaluate the use and utilization of Facebook Live through ZOOM and compared with the use of other learning technologies during online learning.

Research Instruments

The research instrument used as study material was the use of internet data packages, sound and image quality, smooth internet connectivity during online learning, student scores on campus e-learning based on information obtained during online learning using the relevant learning technology.

Data Collection Techniques

Data collection was carried out through interviews and filling out questionnaires in the form of google form which were given to students after the end of the odd semester semester of 2021/2021. In addition, also through data contained on campus e-learning which includes student assignment scores and quizzes based on material taught using the intended learning technology. Several students were also interviewed to get more in-depth information.

Data Analysis

After all data is collected, it is analyzed to find out how the Facebook Live media is used through ZOOM as an alternative to learning during the COVID-19 pandemic. Data analysis followed (Miles et al., 2013) which consists of 3 steps, namely:

Data Reduction; Against all the data that has been collected, the author then selects the relevant data for the classroom action research carried out. Relevant here means that the writer adjusts to the goals to be achieved.

Data Presentation; after being reduced, the data are arranged holistically and comprehensively to see the relationship between one data and another. If it is assessed that there is a gap that needs to be filled, the writer will dig deeper information through interviews with several student respondents.

Conclusions; The last stage is drawing conclusions based on the validity of the data that has been reduced and presented. Through the conclusion, it can be seen whether the action or treatment given can answer the problem formulation or not.

▪ RESULT AND DISCUSSION

This Classroom Action Research (PTK) was conducted on 254 students of the State Agricultural Polytechnic of Kupang (Politani Kupang) from the 1st and 3rd semesters and who took Basic Biology courses under the supervision of the author for the 2020/2021 academic year. This group of students comes from 3 departments, namely: Animal Husbandry, Forestry, and Fisheries & Maritime Affairs which are further spread into 6 study programs (prodi) which can be seen in the following table:

Table 1. Students' (respondents') distribution data

Major	Study Program/Semester	Number of Studnets (People)
Animal Husbandry	Animal Feed Technology (TPT)	73
	Animal Production	22

	Animal Health	48
Forestry	Forest Management	18
	Forest Resources Management	48
Fisheries and Maritime Affairs	Aquaculture Technology (1st and 3rd semesters)	45
	TOTAL OF RESPONDENT	**254**

Online learning at the institutional level has only started to run since around March 2020 (Academic Year 2019/2020) when the city and provincial governments issued official circular for a temporary lockdown period. At that time, all the teaching staff were suddenly asked to switch their learning system and learn it self-taught. The online learning systems adopted are diverse. There are teaching staff who use a form of asynchronous learning by utilizing media such as Whatsapp groups, Google Classroom and Facebook. Other teaching staff prefer to use a form of synchronous learning that utilizes teleconferencing media such as Skype, Google Meet and ZOOM. There are also those who use a combination of the two learning methods. The author himself uses Google Classroom and ZOOM. When entering the new academic year (FY 2020/2021), with a pandemic that does not stop and even has a wider and more sustainable effect, the demand for the use of online learning systems is getting higher and cannot be avoided. In order for effectiveness in achieving student learning competencies, there are of course many things that must be prepared and considered, especially in terms of the use of learning technology.

Preparation and Implementation of Facebook Live through ZOOM.

Responding to the issue above, the author has the initiative to take advantage of learning technology that utilizes Facebook Live through ZOOM. Some of the considerations underlying this choice include:

1. Facebook is the most widely used social media (medsos) among Politani Kupang students.
2. Practical or easy to use.
3. Most of Politani Kupang students are in areas with limited internet connection.
4. Most of Politani Kupang students come from the middle to lower economic community which will also have an impact on the availability of their data packages.
5. The author assumes that social media does not require an internet connection which must be very good and will not require a lot of internet data packages, thus, it can answer the problem in point No. 3 and 4 above.
6. For the author, the use of social media is also considered quite ideal, because it can be optimized as a learning medium asynchronously and synchronously.

Before this learning method is implemented to students, several things are prepared by the author, including:

The author prepares the learning material according to the Semester Learning Plan (RPS) which has been prepared and approved by the course coordinator and the head of the study program. The learning materials are provided in the form of power point files, videos downloaded from YouTube and animations downloaded from the internet.

The author created the Facebook Group "New Students Politani Kupang T.A. 2020/2021 "and share the link (https://www.facebook.com/groups/286496062772531)

with students to be invited to join. Information about the link is conveyed during the student orientation period in which the author is also part of the committee.

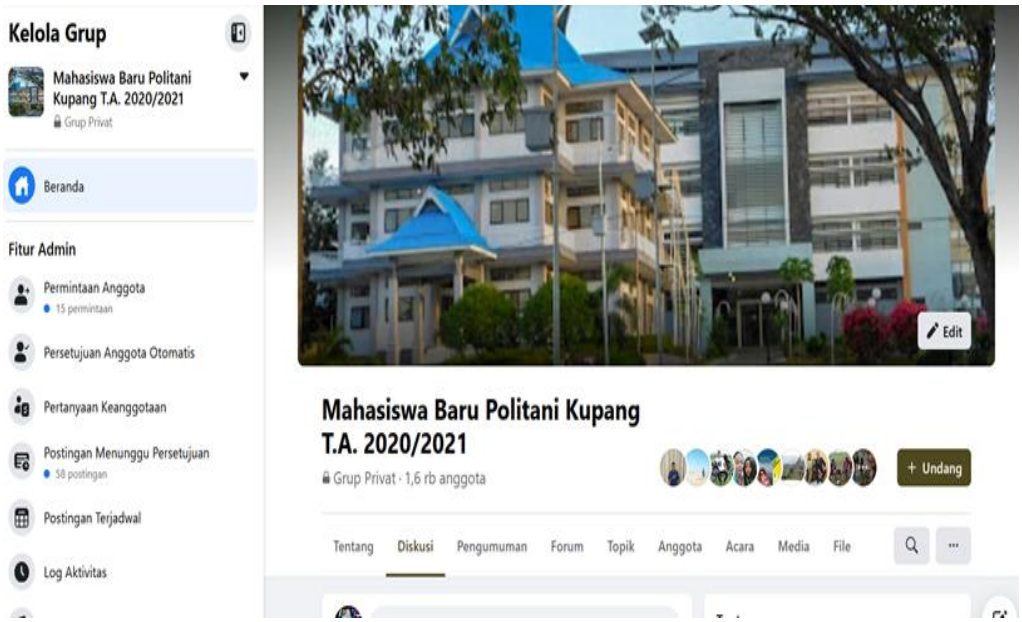

Figure 1. Facebook group display used by the author during online learning

The author prepares a licensed or paid ZOOM account, because the feature to connect a ZOOM account with Live Facebook can only be done with this paid account type. In addition, the time duration will also be unlimited and will not be interrupted every 40 minutes, which is the opposite for non-paid accounts.

The author conducted a technical experiment (trial) connecting Live Facebook through ZOOM to ensure that this technology can effectively and efficiently deliver all course material to students.

The preparations made by the author regarding the material and the RPS lasted for approximately 3 months from May to July including in terms of habituation of the use of the ZOOM application so that the author could be more familiar with the technicalities and all the features needed to support the learning function. The procedure for implementing learning technology using Live Facebook through ZOOM by the author can be described as follows:

To ensure that everyone has joined the Facebook group (Fb group), the author submits the link information to each class level chairperson to then be conveyed to their respective Whatsapp (WA) groups. This is done for approximately 2 weeks before starting online lectures.

The author submits information on the Fb group wall every time an online lecture will be held at least 2 days in advance. I mark this information as an announcement so that it is always at the top of the group wall.

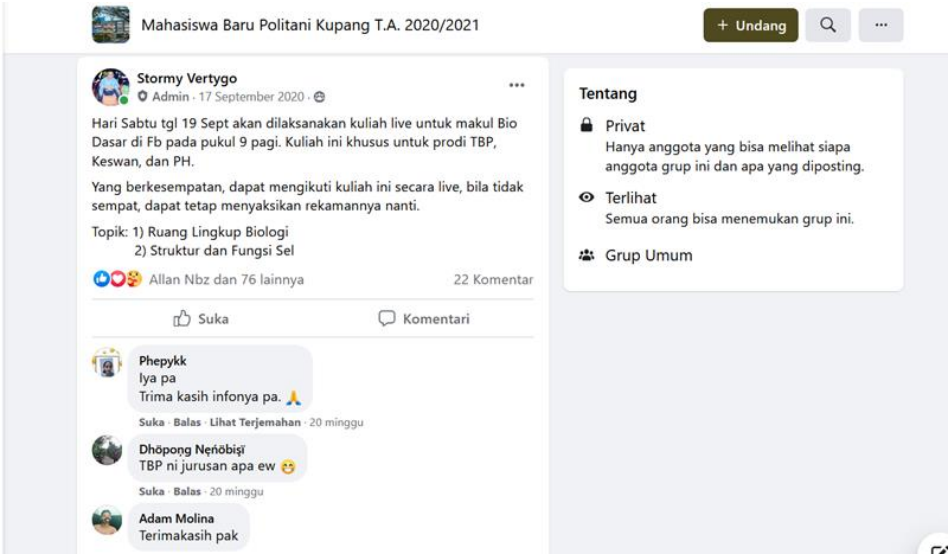

Figure 2. Example of announcements given about online lectures

The author opens the meeting at ZOOM and then uses the Live from Facebook feature option. The next choice is to choose the New Student group Politani Kupang T.A. 2020/2021 as the target for teleconferencing media. The writer usually waits for 5 - 10 minutes until most of the students have watched the live. The author ensures that students have been able to see sounds and images (for example: in the form of powerpoint slides) clearly.

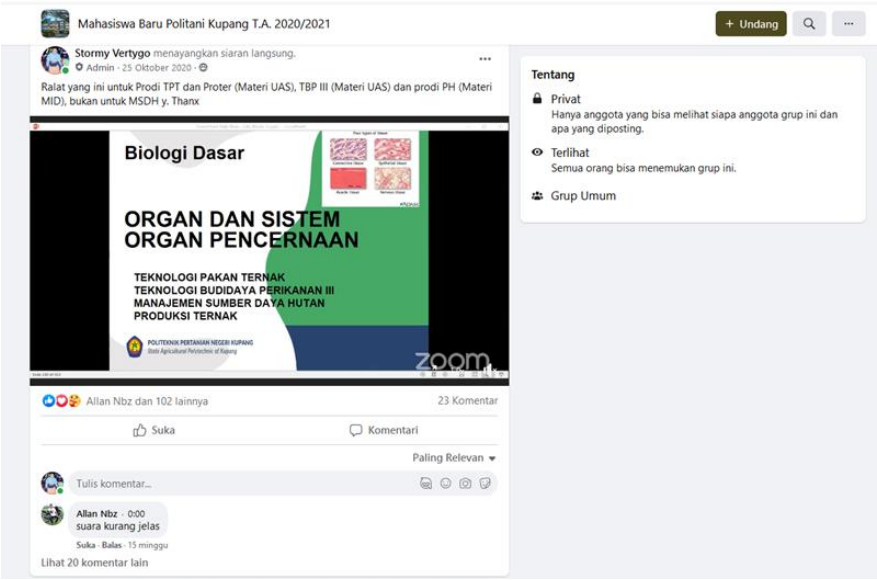

Figure 3. Example of a feedback regarding audiovisual quality before an online lecture starts.

The author delivers learning material audiovisually through Live Facebook which can be watched by students, while students respond (for example when answering questions posed) by providing written feedback in the comments column. The same applies to point 6. above.

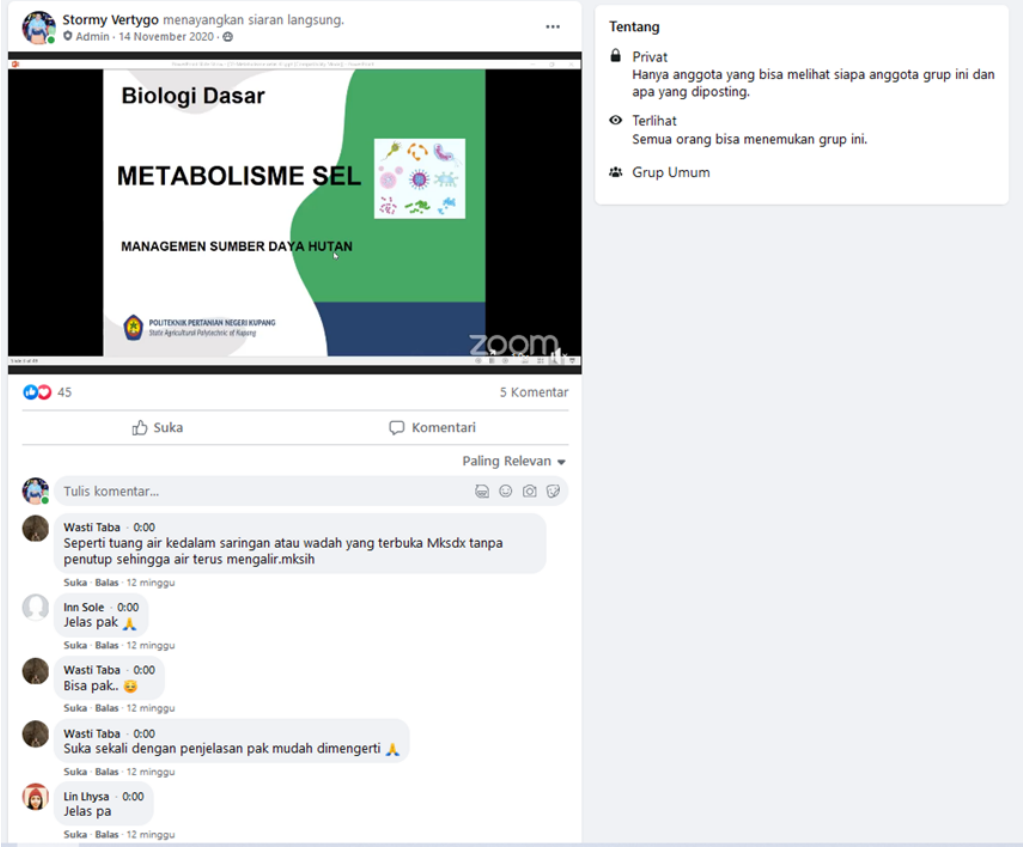

Figure 4. Example of feedbacks during online learning

After the online lecture is over, the Live Facebook will still be recorded and stored on the group wall. Thus, students can watch online lecture recordings repeatedly so that it is hoped that it can increase their understanding. This recording can also be listened to by students who were unable to attend live online lectures.

To support the online lecturing, the author also utilizes the asynchronous learning method in the form of Campus e-learning in which all forms of assignments, quizzes, exams including learning materials (in the form of ppt, pdf and / or doc) are posted on the media.

Evaluation of Facebook Live Implementation Through ZOOM.

After learning the Basic Biology course is completed at the end of the semester, the author then asks for feedback from students regarding the use of learning technology used so far. The feedback was mainly carried out through the google form which deepened the collection of information through interviews with several students.

Based on the data collected, students who stated that the image quality (visual) while using Live Facebook was very good were 159 people (60%), while those who stated that the quality was good and good enough had the same percentage, namely 16.1% or as many as 41 people. The rest, each of which consisted of 10 students, stated that the picture quality was bad and very bad, covering 3.9%. As for sound quality (audio), which stated that the quality was very good was as many as 159 students (62.4%), followed by good quality as many as 52 people (20.4%), 32 people (12.5%) good enough quality and poor quality and very bad with the same number of students, namely 6 people each or covering 2.4%.

After tracing through interviews, most of the students who stated that the audiovisual quality was poor and very bad turned out to be watching lectures via Live Facebook from places or areas that did have limited connectivity. Even so, 65.1% of student respondents still recommend Live Facebook as a means or media that can be used in online learning. There was a student who commented that "even though it was my first time learning via Facebook, I found it fun to study through (Fb) and the point was I could understand" Another student thought that “I think this is one of the best methods during this pandemic. So, it is better if it continues until the pandemic is over”. In general, basically many have positive responses regarding the use of this learning technology. However, not a few also think that the learning method using Live Facebook is not recommended because of the unclear sound and image quality. However, this can be caused by connection in a limited area as previously described above.

During online learning, the authors also observed the level of participation of students on Live Facebook. Based on observations, the number of students who join every time they study online is always below 50% of the total students in each study program. A search through Google Form shows that the main obstacle during online lectures in Basic Biology is the limited data package experienced by 139 students or 54.5%, while those who think that the main obstacle is due to connections in limited living quarters are 107 people (42 %). There are even students who inevitably must move to places that are quite far from where they live in order to get signals to be able to watch live lectures on Facebook. Those who stated that the sound and picture quality were not good were 67 respondents or 67%. As many as 41 people (16.1%) stated that there were no obstacles at all but when interviewed, not all of them were always present during live lectures. According to the author, this can indicate that the student group is more active in watching lectures but not live but after the lecture is recorded and uploaded on the group wall so that it can be watched according to the time of the students concerned. Ironically, it turns out that there are still 3 students who do not have a Facebook account, so learning has come from pdf and ppt materials uploaded by the author on e-learning. There are also those who watch live lectures from their friends' cell phones.

When asked about the source of the internet connection used during Basic Biology online learning, 91.4% of students answered that they used the source of their own internet data package, while the rest depend on Wi-Fi connections from various sources including campus, public places, and their houses and / or boarding houses. As many as 42.6% of students most often use data packages of 11-20 Gb per month and 46.9% spend around Rp. 51,000 - Rp. 99,000 to buy the data package. Even so, 48.8% of respondents still like and recommend the type of blended learning that combines offline and online learning.

Referring to the data related to constraints while participating in online learning discussed in the previous paragraph, students who use a Wi-Fi connection as a source of their internet connection are also included in the group of students who think that during online learning, various obstacles have never been experienced.

When compared with the use of other learning technologies, the use of Live Facebook through ZOOM can be said to be ideal for Politani Kupang students. If you only use ZOOM without connecting to Live Facebook, there is a possibility that the student participation rate will decrease due to the internet connection that must be good and the use of internet data packages which must be a lot. In comparison, the estimated internet data needed to carry out a ZOOM group call with high quality (high) is around 810 Mb / hour and the more participants or participants who join, the more internet data

will be used especially with the video feature turned on (Abbott, 2020). Conversely, with Live Facebook, this can compensate for the high usage of data packages because students do not have to join ZOOM. You can imagine the use of data packages if every time you study online, the author usually combines students from several study programs at once. Internet speed to use ZOOM must also be in the range of 1.2 Mbps - 1.8 Mbps (Chronos, 2020; "Zoom," n.d.), while browsing Facebook requires an average internet speed of 0.03 Mbps ("How Much Internet Speed do I REALLY need?," 2015) and watching video content will require data of around 2.6 Mb / minute ("How Much Data Does The Facebook App Use?," n.d.). The uneven availability and distribution of cellular networks will certainly have more influence on the people in areas with limited accessibility and connection speed (Media, 2019), where most of Politani Kupang students fall into this category. During the pandemic, most of these students chose to remain in their respective areas. In other words, Facebook's media use can be considered more 'package-friendly'.

However, on the other hand, the features contained in ZOOM really support the learning process, for example the whiteboard feature which the authors often use to make short concept mappings, the annotation feature which is often used to mark the current ppt slide. submitted, and also the poll feature (poll) which the author modified to provide multiple choice questions to students. These features are not owned by other learning media. Thus, combining these two media (Facebook and ZOOM) in the form of Facebook Live through ZOOM will also combine the two advantages that will benefit students, namely: practical use of Facebook, low internet data packages, fast information dissemination and utilization of ZOOM with various features which supports the learning process.

Against student scores, the authors found that the use of this learning technology was sufficient to boost student grades and reduce the number of students who did not pass. Especially for the scores of assignments and exams (UTS and UAS) given by the author, there are still less than 50% who get a score above 70.00 which is set as the standard. Tracing through interviews with students who scored high (even 100.00) showed that they were among the respondents who almost always watched live lectures and even watched them more than 2 times in preparation for the exam. This shows that regardless of the type of learning technology used, the initiative of each student also contributes significantly to their learning achievement. Related to this aspect, it is necessary to increase student learning motivation by the teaching staff during the learning process to optimize the learning technology used.

Solutions to Student Problems / Constraints.

The feedback given by these students is the main source of reflection for the writer to further improve online learning methods, especially in relation to the use of media technology used. Regarding several obstacles or problems that hinder student participation in online lectures using Live Facebook, the author can recommend several things:

Ensure that lecture recordings via Live Facebook are kept on the wall of the Fb group so that it provides an opportunity for students who did not attend to watch the lecture. This of course can help overcome internet connection problems and the availability of limited data packages because recorded videos will have a smaller data memory capacity when compared to live videos.

Ensure that the author's internet connection is good enough so that he can carry out online learning with clear audiovisual quality and most importantly not intermittent. If

students who watch live lectures do not get good audiovisual quality (due to their internet connection), then when watching the lecture recordings later, they will not experience the same problem because as long as they are recorded, the writer's internet connection is at least good enough.

Regarding audio quality, this can also be supported by the use of a headset in order to eliminate various background noises around the author so that the voice can become clearer.

Regarding visual quality, if students feel it is unclear, they can still see it from the ppt file uploaded on e-learning. I can also use high-resolution images so that when they are enlarged, they are clearly visible on the screen.

The method of delivering material by the author can also be improved, for example by not speaking so fast that students can more easily understand the material presented.

Students must always be motivated to optimize the learning technology used.

▪ CONCLUSION

Based on the discussion in the previous chapter, several things can be concluded as follows:

Live Facebook through ZOOM can be used as an alternative online learning media during the COVID-19 pandemic because it is considered quite effective and efficient in terms of delivering material from teaching staff to students.

This learning technology can be considered ideal for the characteristics of students who have limiting factors in the form of internet connectivity and availability of data packages because the use of Facebook as a teleconferencing medium does not require very high internet speeds and does not consume internet data packages too quickly.

This learning technology is also considered ideal because of the features of ZOOM that can support the delivery of learning materials such as: screen sharing, whiteboards, annotations, polling and recording.

The author also suggests several things related to the use of this technology as an alternative in online learning: It takes cooperation from both parties (lecturers and students) so that the use of this technology can be felt more by students. Lecturers or teaching staff try to optimize these various technology features in delivering the material, while students have high initiative and motivation to listen to the live lectures given.

To help save on the availability of students' internet data packages, teacher staff can also record their lectures and upload them to Facebook without requiring students to attend or join live lectures. In addition, this will also provide flexibility in time because the teaching staff can record at any time and students can listen to the recordings anytime.

Student interaction, attention and motivation may also decrease during online learning because it is done at a distance. To overcome this, students can always be motivated so that their learning initiatives can increase. The use of student attendance (for example: through Google Form) can also be used to monitor student participation levels and also increase the question-and-answer process with appreciation to stimulate student thinking and enthusiasm during online lectures.

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