

CHAPTER I INTRODUCTION

1. Research Background

Education is an absolute necessity that must be met throughout life. It is impossible for a group of people to live and develop in line with the aspirations to progress, prosper and be happy according to the concept of their outlook on life without education is a very important need for humans, because education plays a very important role in the process of increasing human resources. To be able to create quality human resources, one of the efforts is to improve the quality of education.

The knowledge era in the 21st century is characterized comprehensive linkages in the world of science. Era global as well as the integration of technology in education, has contributed to accelerating the synergy of knowledge across disciplines, thus giving birth to new fields of science such as: physical chemistry, biochemistry, biophysics, biotechnology, etc. This matter a challenge especially in education World. According to (Gibson,1997) challenges in the 21st century have specific criteria which are characterized by hyper competition, succession of technological revolutions, dislocation, and social conflict which will give birth to non-linear conditions and situations that cannot be predicted from past and present circumstances. Complexity global world problems, free competition, and this situation of uncertainty (unpredictable) is an opportunity as well as challenges that must be faced by each individual (Suciati, 2015).

Education learning process that is carried out continuously. Along the development of technology directly demands the world of education to adjust these developments in improving the quality of education thus creating quality human resources in education plays a very important role to improve the standard of living citizens and the nation's degree (Seamy, 2018).

Implementation of lectures in tertiary institutions is a challenge for students, because they are required to be able to master information technology in increasing the nation's competitiveness globally, in this case it is necessary to carry out technology-based learning. Along with this, online learning has been increasingly applied in learning in higher education. Conventional learning which is only limited to face-to-face meetings in lecture halls will not develop students' abilities and knowledge. The time available for lecturers and students to meet face to face in lecture halls is very limited. In addition, the process of delivering teaching materials is almost entirely carried out in the lecture hall which causes the delivery of teaching materials to be hampered if face-to-face meetings do not occur.

The outbreak of the Novel Coronavirus 2019 (2019-nCoV) which continues to expand causing the COVID-19 pandemic worldwide to cause the first global health crisis in the millennium after the Spanish Flu Pandemic in 1918. The closure of schools and educational facilities was the choice of many countries, both in elementary level and university level. This reality created panic at the United Nations (UN). The largest international organization in the world is aware that the education sector is one of the sectors that has been heavily affected by the outbreak of this corona virus. With its rapid spread and large-scale, the situation is getting worse.

At first the world was very affected by the spread of this corona virus, but at this time the world of education was also feeling the impact. With this situation, many affected countries have taken steps to close face-to-face learning activities, including in Indonesia itself, this fact has prompted the government or educational institutions to come up with an alternative implementation of education for affected students or students who cannot carry out face-to-face learning directly in class. UNESCO provides data that more than 39 countries have closed their educational institutions with a total of 421,388,462 students affected by this policy, both schools and tertiary education.

At this time all campuses in Indonesia are implementing policies for online learning activities from a distance or online lectures. In order to break the chain of transmission of the corona virus, social restrictions have been imposed on everyone. The enactment of this policy has had an impact on closing places of worship and canceling mass gathering agendas. The outbreak of the corona virus has also caused the Work From Home (WFH) policy to be enforced. Until finally schools and campuses implemented online learning nationwide. This fact has made the Covid-19 Pandemic a serious impact on the education sector globally (Aan, 2020).

According to Chaeruman (2017) e-learning is the use of various electronic technologies (such as computers, internet, audio, and video) to convey learning and create optimal learning experiences. The use of e-learning has become a necessity in the world of education, especially in tertiary institutions. According to Abdillah in Suharyanto and Mailangkay (2016), e-learning can change traditional learning models to be visual without face to face. In addition, lecturers can provide teaching materials for students, control the material being taught, explore activities for each student such as collecting assignments, chatting online with students, announcing some information, and providing input for students (Rahmawati, 2008).

In today's digital era, many e-learning applications are used in carrying out online learning activities. Online or online learning can be done through various applications that can support the learning process starting from face-to-face applications such as Google Meet, Zoom and other online media platforms such as Google Classroom and WhatsApp Group (Suhada, at al., 2020). Digital learning requires literacy requires digital literacy which is the ability to understand and use information from various digital sources and the ability to use technology and information from digital devices effectively and efficiently in various contexts, such as academics, careers and everyday life (Wahono, 2018).

Google Meet is a learning medium through technology, namely online learning. Google Meet is a communication service issued by Google which can be

used free of charge to serve as an alternative teaching and learning process and can be used as a medium for student digital literacy in improving student learning outcomes (Sawitri, 2020).

The use of the Google Meet application to help learning activities during the Covid-19 period, Unimed has already implemented it for students, but the use of this application was only applied during the Covid-19 period, previously Unimed rarely used or implemented it and mostly used conventional or face-to-face learning . Unimed's Biology Department is one of those that implements this. Because of this, lecturers use or use the Google Meet application to carry out the teaching and learning process for students online.

Therefore the researchers chose the Unimed Biology Department as the object of research to see student learning outcomes in using the Google Meet application. By using this application, it is expected that students can do learning anytime and anywhere so that students are not only able to achieve KKN but also can achieve competency standards that show good performance in Tropical Ecology material.

Lecturers as facilitators can upload material or additional material at any time without being limited by space and time, so that learning can take place at any time and students are required to be able to study independently, no longer centered on the lecturer. With e-learning, students can get used to building their own knowledge so that the material is well absorbed, building the character of helping each other between friends who have learning difficulties, and more optimal use of time. The results of this study also support Samuel's research (in Gomez, 2007) which states that creativity does not come easily through a person's natural talent, but through effort and time by involving experiences related to creativity in a project (Siregar, 2020).

According to (Karwati, 2014) the benefits of e-learning can be seen from 2 (two) points of view, namely from the point of view of students with e-learning students can access teaching materials at any time and repeatedly and can

communicate with lecturers at any time so that can further strengthen their mastery of learning material, while from the lecturer's point of view e-learning provides many benefits for lecturers where it is easier for lecturers to update teaching materials, control student learning activities and even lecturers can also find out when their students are studying, what topics are studied and can check whether students have worked on practice questions after studying a certain topic, checking student answers and notifying students of the results.

Students are subjects involved in teaching and learning activities on campus. On the campus students experience a learning process, after experiencing the learning process students are expected to change according to what is learned from the learning process. This is according to psychologists who state that learning is a change in the maturity of students as a result of learning, and according to (Gagne Sagala, 2006: 13). Learning is a process in which an organism changes its behavior as a result of experience.

According to (Garret Sagala, 2006: 13) Learning is a process that lasts for a long time through training and experience that leads to self-change and changes in how to react to a certain stimulus. Based on the experts above that learning is a process or activity of changing individual behavior in obtaining knowledge after he gets a lesson or experience, this is of course a change for the better (positive), for example those who previously did not know after experiencing the learning process at least get to know. To get to better things in this learning process will require a long time and there needs to be systematic sequences in the learning process.

Indonesia is a country that has the largest tropical forest in the world after Brazil in South America and Zaire in Africa, so it has the highest biodiversity in the world (Whitmore 1975; MacKinnon et al. 2000). Forests are an important component for maintaining the stability of ecosystems on earth because they are in the form of giant stretches of vegetation which play a role in releasing oxygen (O₂), absorbing carbon dioxide (CO₂), storing carbon (C) in the form of organic

matter (carbon pool), and pumping air containing water vapor to the oceans and land.

Tropical ecology is the study of the relationship between the biotic and abiotic components of tropical areas, or tropical climates experiencing hot, humid and rainy weather throughout the year. While many may associate this region only with rainforests, the tropics are home to a variety of ecosystems boasting a wealth of biodiversity, from exotic animal species to rare flora. Tropical ecology began with the work of early British naturalists and eventually saw the establishment of research stations throughout the tropics devoted to exploring and documenting these exotic landscapes. Growing ecological studies in the tropics have led to an increase in conservation education and climate-focused programs.

1.2. Problem Identification

Based on the background described above, several problems can be identified, including:

1. The existence of the corona virus (covid-19) that occurs requires all educators and students to master and use other alternatives in the learning process such as Google Meet.
2. Network connection problems during lectures are very influential.
3. The evaluation process during online learning did not reach the standard.

1.3. Scope of the Problem

In order for this research to be more effective, efficient and directed, it is necessary to define the problem. The problem boundaries refer to differences in student learning outcomes and digital literacy using Google Meet on Tropical Ecology Materials in the Biology Department, Medan State University.

1.4. Research Question

The research question in this study is as follows:

1. What are the learning outcomes of students using Google Meet on Tropical Ecology material in the Unimed Biology Department for the 2020/2021 Academic Year?
2. Are there student learning outcomes using Google Meet on Tropical Ecology material in the Unimed Biology Department for the 2020/2021 Academic year?
3. Are there any obstacles that you experience during the learning process at the Unimed Biology Department for the 2020/2021 Academic Year?
4. Has the learning process reached the standard?

1.5. Research Purpose

Based on the formulation of the problem above, the objectives of this study are as follows:

1. Find out student learning outcomes using Google Meet on Tropical Ecology material in the Unimed Biology Department for the 2020/2021 Academic Year.
2. Knowing that there are differences in using Google Meet on Tropical Ecology material in the Unimed Biology Department for the 2020/2021 Academic Year.
3. Knowing the obstacles felt during the learning process on Tropical Ecology material in the Unimed Biology Department for the 2020/2021 Academic Year.
4. Knowing the learning process has reached the standard or not.

1.6. Research Benefit

The benefits of research can be identified as follows:

1. For Researchers

Researchers are motivated to develop Biology Learning Media by using Google Meet on tropical ecology material

2. For Students

- a. Increasing independent patterns by students in learning Tropical Ecology
- b. Get to know new variations of more modern learning media
- c. Make it easier for students to learn the material properly and correctly
- d. This Google Meet biology learning media can be used as an alternative learning for students to learn independently.

3. For Educators

- a. Provide knowledge to educators about electronic teaching materials used in the classroom
- b. It becomes a separate motivation for educators to be able to develop their own teaching materials according to their needs
- c. Help educators to facilitate students in learning tropical ecology
- d. Making it easy for educators to carry out learning variations in the classroom with a more modern load

4. For Schools

Contribute a variety of learning media to improve the quality of education, especially in tropical ecology learning materials.

1.7. Operational Defenition

To reinforce the understanding in this study, the operational definition is presented as follows:

1. Google Meet is a Google feature that provides video communication services that can be used as virtual meetings.
2. Online is learning that is carried out without face-to-face meetings, but is done online.
3. Corona virus disease (covid-19) is a disease caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) virus.
4. Learning outcomes are the result of cognitive evaluation and assessment of students obtained through cognitive tests regarding Tropical Ecology material.

