

# CHAPTER I

## INTRODUCTION

### 1.1. Background of The Study

Education 4.0 is a response to the needs of the 4.0 industrial revolution where people and technology are aligned to create new opportunities creatively and innovatively. The industrial revolution 4.0 marked by technological disruption has significant implications for the education system (Lase, 2019). The application of a learning system combined with technology regarding the industrial revolution 4.0 has been implemented in Indonesian schools including Senior High Schools (SMA). The teacher designs the combination of online learning and face-to-face learning which this system is called the Blended Learning system. Learning with this system is very helpful for students in developing their skills for technology. Blended learning was applied in several Indonesian schools until before the Covid-19 outbreak struck.

The Covid-19 pandemic has hit all countries in the world, including Indonesia. Covid-19 is a contagious disease, which means it can spread, either directly or indirectly, from one person to another. The complexity of handling the outbreak, the absence of vaccines and drugs to cure Covid-19 patients and the limited personal protective equipment (PPE) for health workers have made the government implement strict policies to break the chain of Covid-19 spread. One way to break the chain of spreading Covid-19 is by limiting community interaction known as physical distancing (Mustakim, 2020).

The government, through the Ministry of Education and Culture, has issued *Surat Edaran No.4 tentang Pelaksanaan Kebijakan Pendidikan dalam Masa Darurat Penyebaran Corona Virus Disease (Covid-19)* starting March 24, 2020. The existence of this letter has caused all educational institutions to take quick steps in response to anticipating the spread of Covid-19 and carrying out learning (Rigianti, 2020). Also, the Governor of North Sumatra also issued

*Surat Edaran No. 440/2666/2020 Tentang Peningkatan Kewaspadaan Terhadap Resiko Penularan Infeksi Corona Virus Disease Di Sumatera Utara, 2020* which means schools in North Sumatra fully implement an online learning system.

According to (Rigianti, 2020), online learning is a new way of teaching and learning that utilizes electronic devices, especially the internet, in delivering learning. Online learning, completely dependent on internet network access.

In previous learnings, students have been provided by the teacher to learn to use technology in face-to-face learning, such as searching for learning resources from the internet and presenting material using a laptop. However, the problem with online learning today is that teachers cannot pay attention to and teach students directly so that students do not easily understand like previous face-to-face learning. Besides, the teacher cannot control what students do when learning takes place, whether students focus on one ongoing lesson or students do other activities outside of the lesson.

During the online learning process must face various difficulties or obstacles. One of the obstacles to online learning is internet network services, students are not familiar with online learning, facilities at home that support online learning and so on. A less stable internet network can affect the learning process of learners. Learning conducted at home makes students less motivated to learn because online learning is not like conventional learning that can be face-to-face with teachers and other students. Interactions that occur in face-to-face learning make students more free in asking questions and can see directly the teacher in explaining. This makes students more focused and concentrated in receiving lessons. However, when online learning is not necessarily students focus on learning because they have difficulties such as the stability of the internet network that interferes with the learning process, lack of focus due to crowded home conditions, and so on (Nabila & Sulistyaningsih, 2020).

According to (Ahmadi & Supriyono, 2008) factors that cause learning difficulties are divided into two groups, internal factors and external factors. Internal factors (factors within the students themselves), namely physiological factors and psychological factors. External factors (factors from outside the students themselves), namely non-social factors and social factors. Learning

difficulties in online learning experienced by students are caused by several external factors due to online learning that requires different facilities and infrastructure and learning methods from previous face-to-face learning as described above.

One of the high schools in North Sumatra, SMA Negeri 10 Medan is also currently implementing an online learning system. SMA Negeri 10 Medan has students, the majority of whom come from the middle to lower class. In the online learning system that is currently being implemented, of course, students have many obstacles as described above. Therefore, it is necessary to research SMA Negeri 10 Medan.

Based on an interview conducted with one of the Biology Teachers of class X MIA SMA Negeri 10 Medan, said online learning was carried out using the Whatsapp application, Zoom Meeting, Google Meet, Google Classroom, and YouTube. The material in the Biology subject that has been thoroughly implemented is the material on the Scope of Biology to the material on Fungi.

Based on interviews conducted to 5 students of grade X MIA SMA Negeri 10 Medan, the students said that online learning is more difficult to implement than face-to-face learning, the reason is due to several factors such as external factors, namely the internet network that is not smooth, thus preventing students from communicating and asking questions with teachers, as well as the need for a large internet quota.

Biology is one of the subjects that must be studied by high school students interested in MIA (Mathematics and Natural Sciences) in the classroom. In class X, Biology subjects in the 2013 curriculum applied to public schools today are teaching students about the Scope of Biology to Environmental Issues. Based on interviews conducted to 5 students, among the materials that have been completed studied by students of grade X MIA SMA Negeri 10 Medan in biology subjects, 3 out of 5 students revealed that Fungi material is the most difficult material to learn, and 4 out of 5 students said that the difficult material lies in the characteristics of Fungi groups in terms of morphology, how to obtain nutrients, and reproduction. In the Fungi material, students use Whatsapp, Google Meet, and YouTube applications during online learning.

Based on this background, it is necessary to conduct a study entitled *“Analysis of Learning Difficulty Factors on Fungi Material in Online Learning in Class X MIA Students of SMA Negeri 10 Medan Academic Year 2020/2021”*.

## **1.2. Problem Identification**

Based on the background above can be identified several problems, namely as follows.

1. Online learning depends entirely on internet network access.
2. Teachers cannot pay attention to students directly during online learning.
3. Teachers can't control what students do during online learning.
4. Less stable internet network services can affect students' learning process.
5. The internet network is not smooth, thus preventing students from communicating and asking questions with the teacher.
6. Students have learning difficulties in online learning caused by several external factors.
7. Students need a large internet quota during online learning.
8. Students have difficulty understanding Fungi material in Biology subjects in online learning.

## **1.3. Scope of The Study**

Based on the problem identification above so that the problem of this research is not widespread, the scope of this study is limited by the learning difficulty factors on Fungi material in online learning in class X MIA students of SMA Negeri 10 Medan academic year 2020/2021.

## **1.4. Scope of The Problem**

Based on the scope of the study above, the scope of the problem in this study are as follows.

1. Learning difficulty factors are limited by external factors directly related to Fungi material in online learning.

2. Fungi material is limited by the characteristics of the fungal group in terms of morphology, how to obtain nutrients, and reproduction.

### **1.5. Research Question**

Based on the scope of the problem above, the research question in this study is as follows.

What are the external factors that cause students of grade X MIA SMA Negeri 10 Medan in the academic year of 2020/2021 to have difficulty learning Fungi materials in online learning?

### **1.6. Research Objective**

Based on the formulation of the problem above, the research objective is as follows.

To find out the external factors that cause students of grade X MIA SMA Negeri 10 Medan in the academic year of 2020/2021 to have difficulty learning on Fungi materials in online learning.

### **1.7. Research Benefits**

The benefits of this study are as follows.

1. For the Ministry of Education and Culture, this research is expected to help review and provide understanding for the government to know the learning difficulties experienced by students in the online learning system.
2. For schools, this research is expected to help schools and teachers to minimize learning difficulties in online learning experienced by students.
3. For further research, this research is expected to be a reference and source of research.

### **1.8. Operational Definition**

In order to avoid misunderstanding understanding in writing, the operational definition is presented as follows.

1. The analysis in this study is to investigate the learning difficulty factors on Fungi material in online learning in class X MIA students of SMA Negeri 10 Medan academic year 2020/2021 clearly.
2. Learning difficulty factor in this study is external factor that is non-social and social factors directly related to online learning process.
3. Fungi material in this study is the material characteristics of the fungi group in terms of morphology, how to obtain nutrients, and reproduction.
4. Online learning in this study is learning that is carried out remotely by using online applications used by teachers of Biology SMA Negeri 10 Medan in learning on Fungi materials, namely Whatsapp, Google Meet, and YouTube.
5. Students in this study were students in class X MIA 1 and X MIA 2 of SMA Negeri 10 Medan in the academic year 2020/2021.

