# CHAPTER I

# INTRODUCTION

In this first chapter, an overview of the research will be discussed. This chapter will discuss the background of the research, problem identification, scope and limitations of the research, problem statement, research objectives, and research significance.

## 1.1 Research Background

At this time, abilities are needed in all aspects of life. Providing programs to improve abilities in the midst of this modern era is also a major focus on campused in Indonesia today to hone students' abilities according to their talents and interests (Kusumo et al., 2022). To hone their abilities, they need freedom to explore things that interest them to improve their abilities; this is in line with the new policy initiative from the Ministry of Education and Culture of the Republic of Indonesia, namely "Freedom to Learn" in the *MBKM* curriculum (Kusumo et al., 2022). To fulfill the expected educational goals in this digital era, the Indonesian government revised the curriculum thoroughly, resulting in this *Merdeka* curriculum (Rohimajaya & Hamer, 2023). *MBKM* itself consists of two concepts, "*Merdeka Belajar*" and "*Kampus Mengajar."* with the *MBKM* curriculum at school and also on campus, it can provide more flexible learning by providing opportunities for students to develop their abilities according to their interests, needs and abilities (Kusumo et al., 2022). Of course, in addition to students, teachers must also be able to provide equal learning opportunities to each of their students with various learning models needed to meet the needs of their students (Novtian & Yavani, 2023). Differentiated instruction is one of the learning approach that will be in line with this curriculum, where *MBKM* and differentiated instruction have the same goal of meeting the needs of different students in the classroom (Arrasyid, 2023).

According to Tomlinson (2014) DI or Differentiated Instruction is an approach used to meet students' different readiness, interests, and learning profiles by providing varied and suitable content, processes, and products for students. Differentiated instruction is believed to help the learning process in classrooms with diverse students; this is in line with Tomlinson's (2017) statement, which says that the purpose of implementing DI is to maximize learning by differentiating content, processes, and products according to student needs. With differentiated instruction, teachers will find out and collect information from students that can be used to consider differences in students' readiness, interests, and learning profiles. Opportunities for teachers to customize methods, learning materials, and assessments that are aligned with student needs are also provided by this *Merdeka* curriculum (Rahimah & Widiastuty, 2023). Only then will the teacher be able to design wisely the learning that will be used in class. With this, the way teachers teach will also change from the traditional way to a more modern way by focusing more on learning based on students' abilities and needs (Dosch & Zidon, 2014).

Content, process, and product are three important components of DI. Content is the learning material or the lessons she wants her students to learn as well as the tools or resources that will help them do so (Tomlinson, 1999). Process is the activities that will help develop students' abilities during the learning process, and product is the result of students' understanding of learning, Tomlinson (2001) said that a good product can help students improve their thinking, knowledge, and learning abilities in addition to being enjoyable to work on.

A wise teacher will strive to provide the best for their students. The role of the teacher in a differentiated classroom is very important, although in a differentiated classroom it will be more student-centered, but it is the teacher who must be able to prepare effective learning to help students succeed (Tomlinson, 2001). Since the distinction of content, process, and

product must be based on the needs of the students, this is where the teacher must be able to understand each student well and try to create a harmonious classroom environment. To be able to collect information on their students, teachers can conduct surveys on them (Parsons and DeLucia, 2005), teachers can also take advantage of the sophistication of existing technology to collect these data, such as using google forms to find out their learning interests, and others.

Following the development of increasingly sophisticated times, the use of technology is increasing in this 4.0 revolution era, where everything can be done with technology. Technology has developed in various fields of life, one of which is in the field of education (Phillips, 2021). The use of technology in the world of education is also widely used today, where we see many teachers using technology to help them teach in the classroom. Likewise, the use of technology in a differentiated classroom will greatly help teachers to provide a variety of interesting learning media for students. Technology will also certainly facilitate the learning process, for example, when the COVID-19 outbreak hit, the learning process that cannot be done face-to-face can be facilitated by using technology such as Zoom, Google Meet, and others as learning media from home (Kelana et al., 2021). Technology also provides a variety of resources that students can use to learn (Altun & Ahmad, 2021). Apart from students, teachers can also provide information that is suitable for the needs and training of their students and make the learning process effective and efficient (Altun & Ahmad, 2021). From this explanation, we can understand that the existence of technology in the world of education can help facilitate the learning process in the classroom. Teachers who teach in a differentiated classroom can utilize technology to find different learning resources and also prepare interesting learning media for their students. Therefore, integrating technology into a differentiated classroom will be very

useful for both teachers and students because technology is considered to greatly affect the learning methods used in the classroom (Altun & Ahmad, 2021).

Technology can also often arouse students' motivation and enthusiasm for learning, this is supported by Altun & Ahmad's (2021) statement, which says that using technology in the classroom can increase student motivation. Technology will also increase students' creativity, they will be able to create something new through the sophistication of technology. Altun & Ahmad's (2021) concluded in their research that technology is very useful in the classroom because it can help students find and collect information and they can learn many things through technology, such as enriching vocabulary and also improving their listening skills through listening to English conversations in an audio or video. It is not surprising that today's students are very adept at using technology, they are also familiar with the use of technology in their daily lives. They can also skillfully use their cell phones and computers to search for information. The integration of technology in education provides new insights, in the process educators are trained better, and students are also involved in every learning process (Swargiary & Roy, 2023).

With the rapid development of technology, teachers are required to be able to master the use of technology for classroom updates. Besides teachers, students should also be able to use technology to help their learning process. To realize an efficient and flexible differentiated classroom, one of them is by using technology which is believed to be a tool to encourage teacher and student success (Parsons and DeLucia, 2005). Previous research that discusses the application of technology in the classroom comes from Courville (2011), who said that technology is very useful in education and helps teachers to be more creative in preparing lessons.

This research is in line with research from Tripathi et al. (2023), which states that technology will be able to help the learning process in the classroom, and also with technology students will be able to learn without being limited by time (Tripathi et al., 2023). With technology students can access learning materials anywhere and anytime so this is what makes students able to learn without being limited by time. Therefore, in addition to removing barriers related to place and time, technology will continue to evolve in education and will continue to provide positive novelties for teachers and students (Courville, 2011). This indicates that technology is in line with education and does not reduce the effectiveness of the learning process so that teachers can continue to implement technology in the classroom with wise consideration. This leads Courville (2011) to conclude that technology has a very good role to play in improving the effectiveness of learning in the classroom.

The researcher chose this topic because the researcher felt that technology based differentiated instruction would greatly help the learning process and can affect the attitude of students in the classroom, whether they will feel happy or more interested in learning by using technology. Also, there were not many previous studies that discussed this matter, for example, research conducted by Parsons and DeLucia (2005) which examines how to use technology in the process of differentiation, they only focused on the role of the teacher and the benefits of using technology for teachers but does not explain how to apply technology directly in the learning process with students. Because it cannot be denied that students also play an important role in the learning process where with this technology based DI, students must be the center to determine what learning will suit them. Therefore, analyzing students' attitudes towards the application of technology based DI is also very important for the progress of the learning process in the future, the teacher can also evaluate learning from seeing the attitudes shown by students during class. This makes researcher

want to take this topic to analyze the implementation of technology based differentiated instruction that can be applied in the classroom. Not only that, researcher will also examine the attitudes shown by students towards the implementation of technology used by teachers in the classroom. Researcher also consider that the current *Merdeka* curriculum in effect will be more interesting if technology can really be utilized well in the classroom.

In this 4.0 era, technology is certainly very important in human life and also changed human life a lot (Saddam, 2021). However, the use of technology if not used properly will also result in addiction and have a negative impact on us. SMK Negeri 1 Sawan was chosen as the object of research because SMK Negeri 1 Sawan has implemented technology based differentiated instruction, so researcher want to examine the implementation of technology there. After the researcher made the preliminary observation at SMKN 1 Sawan, the author first interviewed the teacher about the implementation of technology based differentiated instruction in English class and then found that the English teacher at SMKN 1 Sawan had implemented technology based differentiated instruction in the classroom. This is evidenced by the use of technology in the classroom and the teacher has also used a differentiated instruction approach. in each class XI Hospitality 1, Hospitality 2, and Hospitality 3 the teacher used Microsoft Word, PPT, or Canva when delivering the material and in the learning process, the teacher sometimes used YouTube videos as the learning media for students to watch the learning video. Then for the product, the teacher provided some editing applications to the students, such as Canva, PicsArt, CapCut, etc., based on their interests.

The researcher decided to use SMKN 1 Sawan as the research object based on the results of the observations that had been made. This research will also discuss students' attitudes towards the implementation of technology based differentiated instruction so that we can find out students' views on learning using technology. Not only that, in the second

research question, researcher will find out the problems faced by teachers when implementing technology in a differentiated classroom. By conducting this research, the researcher hopes that this research will be used well with teachers, students, and other researcher to improve their understanding of implementing technology in a differentiated classroom.

However, despite the positive impact of technology in education, teachers must still be able to wisely choose the technology to be used in the classroom and in accordance with the students. Due to the different characteristics of students in a differentiated classroom, there may be students who are fully familiar with the use of technology, but there are also students who do not understand the use of technology, so the teacher must be able to make them not feel left behind by their other friends. That is why the researcher decided to also examine what attitude the students would show towards the implementation of technology based differentiated instruction implemented by the teacher in the classroom. Will they show a big difference when they use technology and when they do not use technology. For teacher it is also important to differentiate content, process, and product based on the needs and readiness of their students in a differentiated classroom and help them slowly to get out of their comfort zone (Tomlinson, 2017).

## 1.2 Problem Identification

Education in Indonesia is currently closely related to the use of technology, teachers and students are required to be able to master the use of technology, especially digital technology for learning. However, even though the *Merdeka* curriculum and the application of technology have been implemented in every school, there are still schools that use very minimal technology in differentiated classes. Especially in differentiated instruction, the use of technology will have an important and beneficial role, both teachers and students

will be assisted by the presence of technology in the classroom. Also, because of the different characteristics of students, teachers must be able to make learning appropriate for each student. In differentiated instruction itself, there are 3 important aspects, namely content, process, and product. In this study, researcher will examine the implementation of technology based differentiated instruction in SMK N 1 Sawan. SMK N 1 Sawan has implemented technology based differentiated instruction in the classroom, technology is used to help provide diverse content for students and also to facilitate them in the learning process. So with the help of technology, the teacher can provide varied content, processes, and products based on their students' needs. When the researcher made preliminary observations, the researcher did not see any problems when the teacher applied this technology based DI in the classroom, the teacher was able to use this technology based DI well and it seemed that the students were interested during the learning process. The teacher differentiated content, process, and product for students by involving technology based DI. This shows that SMK N 1 Sawan has implemented technology based differentiated instruction into their English learning activities.

## 1.3 Scope of the Research

This study discusses several things, such as the implementation of technology based differentiated instruction in SMK N 1 Sawan, problems encountered by the teacher when implementing technology based DI, and also discusses students' attitudes towards the use of technology in the classroom. In this study, students of grades XI Hospitality 1, XI Hospitality 2, and XI Hospitality 3 classes and an English teacher of the 11th grade class will be the respondents for data collection. The researcher chose 11th grade students and an English teacher because the teacher has used the independent curriculum and was also implementing technology based DI in the classroom. The researcher conducted classroom observations, interviews, and also distributed questionnaires to answer the research

question in this study about students' attitudes towards the implementation of technology based differentiated instruction.

## 1.4 Problem Statement

Based on the research background, the research questions of this study are:

1. How does the teacher implement technology based differentiated instruction at SMK Negeri 1 Sawan?

2. What problems does a teacher face when implementing technology in a differentiated classroom?

3. What are students' attitudes towards the implementation of technology based differentiated instruction?

## 1.5 Research Objectives

Based on the research background above, the purpose of this research are:

1. To observe how technology based differentiated instruction was implemented in the classroom activities at SMK Negeri 1 Sawan

2. To investigate the teacher's problem in implementing technology in a differentiated classroom

3. To investigate students' attitudes towards the implementation of technology based differentiated instruction

## 1.6 Research Significances

The results of this research are expected to give a positive impact on both of theoretical and practical significances:

### 1.6.1 Theoretical Significances

This research will be useful for theories on the use of technology in the classroom, especially differentiated classes. This is because this study contains or discusses how English teachers at SMK Negeri 1 Sawan implement technology into a class that has a variety of students with different characteristics and different ways of learning. In addition, this study will also examine the problems experienced by teachers and students' attitudes towards the implementation of technology based differentiated instruction. This has not been found in many previous studies where it is actually important to know the feedback from students based on the attitude they show during learning. With the results of this study, the researcher hopes that this research can be one of the new sources for future research.

**1.6.2 Practical Significances**

a. Teacher

This research can be used as a reference for teachers to implement technology in a differentiated classroom and add teachers' insights into the concept of differentiated instruction in the classroom and also as a reference for teaching materials for students.

b. Students

This research can help students understand their attitudes towards the implementation of technology based differentiated instruction and also recognize the role of technology in today's education. As well as being able to add to their insights related to differentiated instruction.

c. Other Researcher

For other researcher, this research can be used as a basic idea to conduct a new research with new ideas related to this topic.