

# CHAPTER I

## INTRODUCTION

### 1.1 Background of the Study

Differentiated Instruction is no longer a new concept in Indonesia. It is a key aspect of the Merdeka curriculum, emphasizing students' needs and interests to provide learning experiences that maximize their potential by adapting to their individual requirements. In an era of education that continues to develop, differentiated Instruction methods are becoming increasingly important. Differentiated Instruction is a way of understanding and providing knowledge according to the talents and learning styles of students with many characteristics (Andini, 2022; Digna & Widyasari, 2023; Tomlinson et al., 2003). One way to implement differentiated Instruction in the Merdeka Curriculum is by allowing students to select their own learning materials. According to (Mavidou & Kakana, 2019) Students are given the freedom to choose topics that they are interested in and want to learn more about (Tomlinson, 2001). In addition, Differentiated Instruction also involves the use of varied teaching methods. In Differentiated Instruction, teachers also have a role as facilitators in student learning. Teachers are given time to find activities that suit students' learning needs, while still emphasizing the learning aspects that need to be taught on a particular topic (Foote, 2008). Every student has a different learning style, so teachers need to use various teaching methods that suit students' needs. By providing this choice, students will be more motivated to learn because they can learn according to their interests and needs, and teachers will easily see that the student's learning process will be more

effective and that students will be more involved in learning (Mavidou & Kakana, 2019).

In the implementation of Differentiated Instruction, teachers have different views, which are influenced by their interest in a new way of teaching (Joseph et al., 2013). Teacher interest is said to have a direct impact on the way of teaching and the provision of teachers for learning activities according to the needs and learning interests of students (Pozas et al., 2022). Teachers who have an interest in the implementation of Differentiated Instruction also need to remember the characteristics of students, as well as be aware of curriculum elements or achievements that can be adjusted to match the differences of students (Melesse, 2016). So, when teachers are interested in implementing Differentiated Instruction in the classroom, they will pay attention to various aspects that affect student learning. From here, teachers can better consider the provision of learning methods that suit the needs of students in the classroom. In other words, when teachers have a high interest in Differentiated Instruction, it will automatically affect the teacher's readiness to provide a more diverse learning process.

The increasingly rapid development of information technology in the current era of globalization can no longer be avoided, and its influence on the world of education is significant. The demand in the world of education is always to balance technological developments to improve the quality of education, especially adjustments to the use of technology in the world of education, especially in the learning process (Al-Haj, 2020). Currently, teachers can use technology as a learning media in delivering learning material to students, such as Zoom, Google Classroom, WhatsApp groups, PowerPoint, etc. Using technology

as a learning media can make it easier for teachers to deliver the material so that when the material is presented it becomes interesting and not monotonous, making students more interested and enthusiastic about participating in class learning. Students will feel more helped when teachers are highly interested or enthusiastic about providing different learning facilities for each student (Kalinowski et al., 2024). This also shows that teachers are interested in exploring Differentiated Instruction learning methods, so that teachers pay close attention to each student's learning needs. When teachers are able to provide appropriate learning facilities and needs, this can directly affect the increase in creativity and curiosity in each student (Kahmann et al., 2024)

As we know, technology as a learning media has many benefits. One of them is making the implementation of Differentiated Instruction better, the process and delivery, as well as the products produced in the classroom, more easily accessible (Johler & Krumsvik, 2022). Utilizing this learning media makes it more effective and efficient for students and teachers, and will make teaching easier and more interesting for students to understand (Pokey Stanford., CrCrowe, M. W., Flice, H., & Crowe, M. W. (2010). Differentiating with Technology Pokey Stanford. Teaching Exceptional Children Plus, 6(4), 1–9.owe et al., 2010). According to Taylor (2015), there are several factors that play a role in improving when implementing Differentiated Instruction, namely, the first is content, the level of student mastery in the learning process is different, namely, visually, auditorily, and kinesthetically. Knowing the learning style of each student will certainly really help the teacher in developing the content they will use during teaching according to the student's interests and talents, for example, students can

access learning using video, audio, or text. Second, namely the process, the use of technology in differentiated learning is different, for example, the use of WhatsApp media or WhatsApp groups, which can be used to deliver material in the form of PowerPoint, video, or text files. Third, namely product, this product differentiation offers different product results depending on student needs and allows students to apply what they have learned previously, depending on the learning method they choose. The application of this kind of technology will be very helpful in overcoming the gap between students with different abilities (Abdulrahaman et al., 2020). However, it should also be remembered that teachers need to have skills in running some of the technologies used in learning so that they do not become obstacles or difficulties in the student learning process (Runge et al., 2023).

When technology is employed as a supplement in the classroom, the function of teachers' interest becomes even more important. Wang and Zhao (2021) discovered that instruction with strong intrinsic motivation and high technical self-efficacy are willing to incorporate digital resources in ways that are consistent with their instructional values. In a meta-analysis, Cai, Wang, and Chiang (2021) found that successful use of mobile learning platform such as WhatsApp or Google Classroom was substantially connected with teacher enthusiasm in instructional innovation. Differentiated Instruction in education serves as a bridge to accommodate the diverse needs of each student and boost their learning (Benjamin & Aguilar, 2020). Talking about Differentiated Instruction is strongly tied to adapting learning to the requirements of the learners. Students from various backgrounds have varied learning demands due to their individual



characteristics and profiles (Hidayati et al., 2022; Lubaba & Alfiansyah, 2022; N. Rachmawati et al., 2022). Not only do students have a range of intelligence, but they also need different teacher care. Differentiated Instruction in the classroom is important due to the students' various differences. Differentiated Instruction allows kids to study easily based on their potential, uniqueness, and situations, ensuring students feel at ease in the learning environment the instructor sets. (Fitra & Lestarinigrum, 2022). The principal's and teachers' willingness to adapt is key to effectively implementing the Merdeka Curriculum (Digna & Widyasari, 2023).

Teachers' interest is one of the most important internal elements in influencing teaching quality and effective pedagogical innovation adoption. In the changing landscape of education, particularly with the integration of technology and the adoption of Differentiated Instruction, teachers' willingness and motivation to engage in instructional change is heavily influenced by their personal interest in profession (Schiefele, Streblow, & Retelsdorf, 2013). Define teacher interest in three dimension: subject-matter interest, which reflects enjoyment of academic content; didactic interest, which denotes enthusiasm for delivering and designing instruction; and educational interest, which is concerned with students' learning and personal growth (Retelsdorf, 2010). In recent years, empirical research have repeatedly shown that these aspects of interest have a considerable impact on teacher behavior, particularly when adjusting to new instructional techniques such as technology enhanced learning (Schmid & Petko, 2020; Alenezi, 2022). Teachers with a strong didactic and educational interest are more likely to investigate and use techniques like Differentiated Instruction to meet the unique requirements of their students (Kim & Park, 2020). Differentiated Instruction

encourages instruction to constantly reflect on and adapt content, process, and product based on students' readiness, interest, and learning profiles (Tomlinson, 2017; Bayat & Rezaei, 2022).

Based on preliminary observations of English teachers at SMK Negeri 3 Denpasar, researchers discovered that classroom learning had implemented technology-based differentiated instruction, with WhatsApp technology being used at the time to provide various learning media such as video, audio, and text. From the implementation, the teacher appeared motivated and made it easy for them to use Differentiated Instruction using the WhatsApp application. The teacher received numerous comments from students who were interested in the use of Differentiated Instruction in WhatsApp technology and wanted to be involved in studying English. However, teachers had some trouble with the replies of certain students who were less interested in adopting Differentiated Teaching via WhatsApp technology, since the students' responses indicated an indifferent attitude and an openness to other things outside of learning. Then, in an interview with an English teacher at SMK Negeri 3 Denpasar, the English teacher stated that the effectiveness of English learning in the classroom increases because the content, processes, and products can differentiate, allowing students to freely choose how to learn based on the needs that have been provided through commonly used technology.

This study is unique in its approach as it focuses on the role of teacher interest in successfully implementing technology-based differentiated instruction, particularly in a vocational education setting. While much of the existing research on differentiated instruction emphasizes its theoretical aspects and student-

centered outcomes, this study explores how teacher engagement and motivation shape the practical use of technology in the classroom. The novelty lies in understanding how teachers' interest in technology-enhanced DI influences their ability to adapt and effectively use digital tools to meet the diverse needs of students. This research adds a fresh perspective by exploring the intersection of teacher interest, technology integration, and differentiated instruction in the context of vocational education, a less explored area in the current literature. Noguera et al. (2024) highlighted how digital tools are integrated into vocational education and the impact of teacher engagement in adapting these tools for effective teaching practices, which supports the need to explore the role of teacher interest in implementing technology-based DI in vocational settings.

Students responded favorably to the differentiated education they received in class. In addition to their adaptable approach to the material, procedures, and final products for every subject, the teachers of SMK Negeri 3 Denpasar include a variety of technologies in their lessons. With the help of several resources, students may easily select the type of information, procedures, and end products that best meet their unique learning requirements. The teacher will then be able to observe how the pupils respond to the initial form of the information. Teachers may learn more about each student's interests and learning preferences. It is evident that teachers' interest in adopting differentiated instruction is based on the requirements of their pupils and on the availability of different kinds of learning resources or technology. So, a study was conducted to determine the interest of teachers in implementing technology-enhanced differentiated education methodologies. The use of technology in the classroom to engage teachers in

differentiated instruction has not received much attention in research. Thus, this study was carried out by looking at how teachers' interest was when differentiated instruction was implemented in the classroom with the support of learning technology, which is currently increasingly diverse.

The role of teachers in implementing technology-based differentiated instruction is critical, as their level of interest influences how effectively these methods are integrated into classroom practice. According to Joseph et al. (2013), teacher interest is a driving factor in adopting innovative teaching strategies, particularly in response to evolving educational needs. Pozas et al. (2022) further highlight that teachers who are more engaged in differentiated instruction tend to exhibit greater flexibility in adapting content, process, and product differentiation to meet student needs. This suggests that when teachers have a strong interest in using technology to facilitate in implementing Differentiated Instruction, they are more likely to explore and utilize diverse instructional approaches that enhance student engagement.

Moreover, previous research has demonstrated that technology can serve as an effective tool in implementing differentiated instruction (Johler & Krumsvik, 2022). However, while studies have explored the impact of technology on student motivation and learning outcomes (Kurniawati, 2022), fewer studies have examined how teacher interest plays a role in determining the successful integration of technology into differentiated instruction. Many existing studies focus on external factors such as curriculum design, student engagement, and access to digital resources, yet overlook the intrinsic motivation of teachers to adopt and sustain these instructional methods.



While previous research has explored Differentiated Instruction (DI) and its application in various educational settings, this study introduces a fresh perspective by focusing on teacher interest in technology-based DI, particularly within the context of vocational education. Most prior studies have concentrated on the general application of DI or have primarily examined student-centered outcomes, but this study shifts the focus to teachers as facilitators, exploring how their motivation and enthusiasm for technology can shape their instructional practices. Joseph et al. (2013) emphasized the importance of teacher interest in implementing differentiated instruction, showing that when teachers are motivated and engaged, they are more likely to adopt innovative teaching strategies.

Previous studies have also predominantly used quantitative measures or concentrated on theoretical frameworks, often overlooking how teacher motivation influences the adoption of technology-enhanced DI. In contrast, this research combines qualitative observations with quantitative data, allowing for a deeper exploration of how teacher interest interacts with technology to enhance DI strategies. This combination of methods provides a more comprehensive view of how teachers can adapt their practices to better meet the diverse needs of their students. Krishan and Al-rsa'i (2023) highlighted that teachers' attitudes toward technology play a significant role in the successful adoption of differentiated methods, particularly when technology enhances student engagement and motivation.

The study also fills a gap by examining the integration of technology-based DI in vocational education, specifically at SMK Negeri 3 Denpasar. While many studies have explored DI in general education, the context

of vocational schools—where students' learning needs can be highly diverse—has received less attention. This research focuses on how technology tools like WhatsApp, Google Classroom, and multimedia are used in vocational classrooms, giving insights into how these tools facilitate differentiated instruction.

In addition, this study investigates how teacher interest influences the effectiveness of technology-based differentiated instruction in English language teaching at SMK Negeri 3 Denpasar. Unlike prior research that primarily emphasizes student-centered outcomes, this study shifts the focus to teachers as the key facilitators of differentiated learning. By exploring teachers' perspectives, challenges, and motivations in using technology for differentiated instruction, this research aims to provide a more comprehensive understanding of the factors that influence the adoption and success of these methods. The findings will contribute to a broader conversation about how teacher interest and technological innovations intersect to shape contemporary pedagogical approaches.

## **1.2 Problem Identification**

The implementation of the Merdeka Curriculum in Indonesia simplifies the teaching process by enabling teachers to recognize the diversity in students' skills, interests, and readiness. With this diversity, it is necessary to implement Differentiated Learning, which can differentiate students based on aspects of content, process, and products produced. Technological advances make knowledge and information more easily accessible to teachers so that they can meet students' interests and needs during the teaching process. While many studies have explored the impact of technology-based differentiated learning on student interest, few have examined teachers' interest in adopting this approach. So during

the first observation, this researcher is interested in finding how Technology-based Differentiated Instruction is applied in SMK Negeri 3 Denpasar, so that this research will help the teacher in the teaching and learning process, and also increase their interest in teaching English. The application of technology-based Differentiated Instruction may assist them in solving the problem of students' diversity, specifically for the students who know their needs in learning English. In order to increase teachers' interest in teaching while enhancing their use of technology, English teachers integrate the implementation of technology-based Differentiated Instruction, such as WhatsApp. It shows that the Differentiated Instruction approach has been adopted by three English teachers in grade 11th at SMK Negeri 3 Denpasar.

### **1.3 Limitation of the Problem**

Researchers conducted a more in-depth study by limiting the research to 3 eleventh-grade teachers of the hotel, beauty, and fashion study program at SMK Negeri 3 Denpasar in the 2023-2024 academic year, a vocational school located in Jalan Tirtanadi, Sanur Kauh, South Denpasar. Teachers were prioritized as the main informants for the researchers to observe how differentiated learning integrated with technology affects teacher interest at SMK Negeri 3 Denpasar. The researchers directed the hospitality teachers to investigate implementing Differentiated Learning integrated with technology applied in English language class activities. Three eleventh-grade teachers in the first semester were selected as the main informants in this study because they have implemented Differentiated Teaching integrated with technology and can provide

information on how differentiated learning integrated with technology affects teacher interest in applying Differentiated Instruction to English in every classroom learning activity.

#### **1.4 Research Question**

Based on the research background explained above, there are several questions:

1. How were technology-based Differentiated Instructions implemented by teachers in the classroom at SMK Negeri 3 Denpasar?
2. How were teachers' interests when technology-based Differentiated Instruction is implemented in the classroom at SMK Negeri 3 Denpasar?

#### **1.5 Research Objectives**

Based on the research questions above, the objectives of this research are as follows:

1. To observed the implementation of technology-based differentiated instruction by teachers in the classroom at SMK Negeri 3 Denpasar.
2. To investigated teachers' interest in implementing technology-based differentiated instruction in the classroom.

#### **1.6 Research Significance**

The results of this research are expected to have a positive impact both theoretically and practically, especially in contributing to the understanding of



technology-based differentiated instruction and its practical implementation in the classroom:

### **1.6.1 Theoretical Significance**

The results of this research are important for Differentiated Learning theory because they provide valuable insights into how teachers at SMK Negeri 3 Denpasar use technology-based Differentiated Learning to adapt their teaching strategies to diverse student needs. By examining this, the study explores how the integration of technology may influence teachers' interest and engagement in implementing differentiated approaches. This research will also highlight the effectiveness of these methods in enhancing personalized learning and student outcomes, there by contributing to the understanding and advancement of Differentiated Learning practices.

### **1.6.2 Practical Significance**

#### **1. Teacher**

The research results are intended to increase teachers' knowledge, particularly in the use of technology-based Differentiated Teaching in senior high schools. By exploring how technology can be integrated into differentiated instruction, the study aims to provide teachers with valuable insights and practical examples for adapting their teaching practices to better meet the diverse needs of students. This could also promote greater teacher awareness of the potential benefits and challenges of using technology in the classroom, encouraging more

effective and engaging teaching methods that cater to individual learning styles and paces.

## 2. Students

It is hoped that the results of this research will reveal valuable information about students' interests when technology-based Differentiated Learning is implemented. By examining how students respond to the integration of technology in differentiated teaching, the study seeks to shed light on the ways this approach may engage students more effectively, fostering a deeper interest in learning. Insights from the study could help educators understand which aspects of technology-based instruction resonate with students, motivating them to participate more actively in class. This information could be crucial for refining teaching strategies to enhance student engagement and overall academic achievement.

## 3. Other Researchers

The results of this study can be used to guide other researchers when conducting comparative research in different areas, particularly in exploring how technology-based differentiated learning impacts teacher and student outcomes across diverse contexts. By applying similar methods or adapting them to fit different educational settings, future studies can further test the generalizability of these findings, thereby increasing the reliability and validity of the conclusions drawn from various settings. Additionally, researchers can build on this study's

outcomes to refine existing theories or propose new frameworks for integrating technology in education.

