

CHAPTER I

INTRODUCTION

This chapter provides a comprehensive overview of the study by outlining several key components, including the research background, identification of the problem, scope and limitations, research questions, objectives, significance of the study, and definitions of critical terms. The introduction to the research is elaborated in the following sections.

1.1 Research Background

In the fast-paced modern era, significant advancements in technology and science are occurring at an accelerated rate. This has led to an explosion of knowledge and a newfound openness to all aspects of an individual's life. These subjects are closely tied to technology and are responsible for generating crucial concepts, principles, and skills that drive progress and innovation (Krishan & Al-Rsa'I, 2023). The contemporary education system requires teachers to play a crucial role in identifying and catering to the diverse learning styles, interests, and needs of students in the classroom (Van, 2020). Teachers in classrooms globally face the significant challenge of dealing with a highly varied student population. These students not only differ in their academic performance and preparedness but also exhibit diverse learning preferences, cultural backgrounds, language skills, learning styles, levels of motivation, as well as social, methodological, and self-regulatory abilities (Pozas et al., 2023). Teachers should adopt a mindset that encourages students to thoroughly prepare and explore multiple options to meet their specific requirements, goals, and objectives successfully. This approach fosters an environment where students can become more proficient learners during the learning process (Adipat., et al, 2021).

Language is one of the most important factors influencing people to communicate. Students use various parts of English skills such as listening, speaking, reading, and writing in competence and communication (Grabe & Stoller, 2020). According to (Marcellino et al, 2021), the curriculum for English language teaching has undergone more than four revisions since the country gained

independence. However, these revisions had a minor impact on the learning outcomes. The Indonesian Ministry of Education, Culture, Research, and Technology (*Kemendikbudristek*) has recently introduced the MBKM (*Merdeka Belajar Kampus Merdeka*) curriculum. This innovative approach grants educational institutions and schools in Indonesia the liberty to adapt their learning styles to align with students' interests, needs, capabilities, and skills. In essence, it empowers students to pursue their educational journey with a sense of freedom, enabling them to explore and develop their potential to the fullest (Kusumo et al., 2022). Consequently, to accommodate the unique attributes of each student, the learning experience in the classroom should be more empathetic. (Matra et al., 2018) believes this approach places the students at the core of the instructional method while the teachers take on the role of facilitators. Their main objective is to identify and implement the most suitable strategies and learning methods to support the students effectively. This way, students receive tailored opportunities to meet their learning needs at different levels (Kupchyk & Litvinchuk, 2020).

Given the increasing diversity of students in the classroom in recent years (Leppan et al., 2018), there are several learning strategies offered by teachers that might help students learn a language, specifically English. (Ainia, 2020) emphasized the significance of interest in the learning process, stating that when students lack enthusiasm and curiosity, achieving the desired learning outcomes becomes challenging. Conversely, if students display a genuine interest in the subject matter, positive and fruitful results can be anticipated. In essence, Ainia's perspective underscores the pivotal role of interest in shaping academic success. Acquiring a language can be achieved through various methods, which are influenced by individual differences and the learning environment. Learning involves a conscious effort where individuals become aware of language rules and apply them to communicate effectively. In this context, differentiated instruction as an approach refers to the broader strategy or mindset that teachers adopt to meet the diverse learning needs, preferences, and abilities of students. By incorporating this approach, teachers can address the varying levels of language proficiency and learning styles, ensuring that all students have the opportunity to engage with and

master the content. Unlike methods, which are specific techniques or strategies, an approach is more about the overall philosophy or framework guiding the teaching process. In the context of differentiated instruction, the teacher recognizes that students have different ways of learning, and this approach involves adjusting the teaching environment, materials, and content to ensure that all students can access and engage with the curriculum effectively. The focus is on providing multiple pathways for students to learn, rather than using a one-size-fits-all method. This could include offering varied levels of difficulty, using different types of content (e.g., visual, auditory, kinesthetic), or allowing for different ways of demonstrating understanding. The key idea behind differentiated instruction as an approach is flexibility and responsiveness, allowing the teacher to continuously assess and adapt their teaching to meet the needs of individual students or groups of students. Differentiated instruction can serve as a valuable approach for teachers to effectively and flexibly address the diverse needs of students in the classroom (Kupchyk & Litvinchuk, 2020). By adopting this method, teachers can facilitate a more personalized and inclusive learning experience, placing students at the heart of the educational process. According to a study conducted by (Shareefa et al., 2019), differentiated instruction is an educational approach that provides students with opportunities to learn while acknowledging and addressing their individual differences and unique needs. (Ortega, 2018) adds that this approach allows educators to accommodate varying learning styles, abilities, and interests, ensuring that each student receives the necessary support to thrive and succeed in their academic journey. Differentiated instruction, with its emphasis on customization and adaptability, plays a pivotal role in creating an engaging and conducive learning environment that nurtures student diversity and fosters their overall growth and development.

According to (Watts-Taffe et al. (2018), differentiated instruction is an instructional approach that involves incorporating a range of strategies to support student learning. These strategies may include flexible grouping, adaptive instruction, and detailed progress monitoring. With the implementation of these techniques, teachers are better able to cater to the diverse needs of their students

and facilitate their learning effectively. (Tomlinson, 2019) emphasizes that providing students with a diverse range of learning options is essential. This approach accommodates their individual needs, enabling them to comprehend the study materials through different methods, internalize concepts effectively, and showcase their understanding in various ways. As classroom populations continue to grow increasingly diverse, the need for differentiated instruction has become more essential. This diversity is reflected in various aspects, including students' socioeconomic backgrounds, levels of motivation, linguistic proficiency, cultural traditions, ethnic identities, and prior educational experiences. Consequently, tailored instructional approaches are necessary to accommodate these differences and ensure effective learning for all students. This teaching approach has proven to be practical and effective, as indicated by the growing number of publications and citations in the field of differentiated instruction (Sukiman, 2022). However, even in more homogeneous classrooms, it is essential to recognize that students have different learning needs and abilities. Restricting teaching solely to the "average student" may not be sufficient to support individual growth and development. By implementing differentiated instruction, the goal is to ensure that each student is provided with equal opportunities to receive an adequate education, irrespective of their unique learning requirements. In this teaching approach, teachers need to take a proactive role in addressing their students' interests and learning requirements. They must possess a deep understanding of their student's needs and be adaptable in their approach to accommodate these needs effectively (Ginja & Chen, 2020). Furthermore, teachers must be knowledgeable enough to recognize the unique learning styles of their students and use this knowledge to employ appropriate teaching methods that facilitate effective learning. In order to effectively implement differentiated instructional methods, teachers should be ready to utilize a diverse range of activities to cater to each student's individual needs. This includes recognizing and incorporating students' passions, interests, and preferred learning styles into the teaching approach. Additionally, providing ample opportunities for independent learning will be crucial for students to achieve their learning goals (Tomlinson, 2018) successfully. Through the implementation of differentiated

instruction, teachers can shift away from the conventional approach to teaching, where the focus is primarily on the teacher imparting knowledge to students. Instead, differentiated instruction allows teachers to adapt their teaching methods to cater to individual students' interests and abilities, placing the learners at the center of the learning process (Ginja & Chen, 2020).

The implementation of differentiation as an approach has a profound effect on various aspects of the educational system. It significantly influences the development of learning materials, the learning process itself, and the outcomes achieved by students. By adopting differentiated instruction as an approach, educators create a flexible and responsive learning environment that caters to the diverse needs and abilities of all students, enhancing engagement and promoting success across a wide range of learners. As a result, teachers are required to tailor their instruction to meet the diverse needs of individual students. This involves adjusting the content, procedures, and final products of the learning experience to ensure that each student's unique learning style and abilities are appropriately addressed (Tomlinson, 2018). In a differentiated classroom, the teacher carefully designs and applied diverse methods for presenting the subject matter, facilitating the learning process, and evaluating the students' outcomes. This is done with the understanding that students have varying levels of readiness, interests, and individual learning needs. By proactively adjusting their teaching strategies and being responsive to the unique characteristics of each student, the teacher aims to create an inclusive and effective learning environment that maximizes the potential for academic growth and success (Tomlinson, 2017). Teachers focus on three key areas to cater to the diverse needs of their students. The first area involves differentiating the content, wherein teachers carefully plan what they will teach and find various ways for students to achieve the same learning goals. This approach acknowledges that students have different interests, abilities, and readiness levels, and it seeks to provide multiple pathways for them to grasp the material effectively (Ahmadi, 2018). The second area revolves around differentiating the learning process. This means tailoring instructional methods and strategies to accommodate the varying learning styles and preferences of students. By using a variety of

teaching techniques, activities, and resources (Sebihi, 2019). The final area centers on differentiating the product or outcome of students' learning. Teachers encourage students to demonstrate their understanding and application of knowledge in diverse ways. This could involve allowing students to choose the format for their projects, presentations, or assessments, ensuring that the result reflects their interests, strengths, and creativity (Levy, 2020). The key to creating an authentic product that addresses real problems lies in maximizing differentiation through the strategic use of technology as a tool to enhance the learning process.

In this regard, the integration of technology into differentiated instruction has gained significant attention, as it provides opportunities for teachers to cater to diverse learning needs more effectively. With digital tools and resources, teachers can personalize learning experiences, offer students varied means of accessing content, and provide real-time feedback. The observation aimed to understand the specific methods teachers used to integrate technology and how it impacted their teaching process. Teachers were seen using various digital tools to personalize learning experiences for students, such as adaptive learning platforms, online assessments, and multimedia resources. However, while technology integration holds great promise, it can also introduce challenges for educators. The demand to keep up with evolving technological tools, adapt instructional strategies, and maintain student engagement through digital platforms can lead to increased stress levels among teachers. Research has shown that teaching is often considered a highly stressful profession. Some expressed frustration with managing multiple digital tools and maintaining the balance between using technology and meeting students' individual needs. The need to keep up with new technological trends and ensure that all students were engaged in a tech-enhanced learning environment was overwhelming for some teachers, particularly those who were not as familiar with the tools. This stress was not just about the difficulty of using the technology but also about the perceived pressure to innovate constantly and meet the diverse demands of students in a tech-driven classroom.

Thus, while technology had the potential to enhance differentiated instruction, the preliminary observation highlighted that teacher stress was a significant factor.

It suggested that the successful implementation of technology requires not only adequate professional development and support but also time for teachers to adapt and feel comfortable with the tools they are using. A survey conducted among teachers in England, Australia, New Zealand, and the United States found that about a third of the respondents described teaching as “stressful” or “very stressful” (Fitriani, 2022). One of the primary contributors to teacher stress is the expectation to incorporate technology into their teaching practices. The rapid pace of technological advancements and the pressure to integrate new tools effectively can create a sense of overwhelm, particularly for teachers who are not fully confident in their technological abilities. In this case, the teacher must remain creative with various applications. Of course, not all teachers master technology, so they feel pressured and think that technology is an obstacle for them in the teaching process. So, the purpose of Differentiated Instruction cannot be applied optimally because of stress. Therefore, this research was immediately carried out so that we could find out whether teachers tend to be “*stressed*” while using differentiated instruction integrated with technology in schools. As technology becomes increasingly central to education, teachers may feel the pressure to not only master digital tools but also to use them in ways that support differentiated instruction. This combination of factors can make it challenging for teachers to balance the need for creativity and innovation with the pressure to meet diverse student needs, resulting in higher levels of stress. Consequently, the purpose of differentiated instruction may not be fully realized if teacher stress hinders its effective application. The purpose of this study is to investigate how technology integration affects teacher stress and how it affects the way differentiated education is implemented in classrooms. Understanding these dynamics is crucial for developing strategies that support teachers in navigating both the demands of technology and the need to maintain a stress-free, effective learning environment.

Theoretically, Differentiated Instruction (DI) was defined as a pedagogical approach that adjusted the content, process, product, and learning environment based on students’ readiness, interests, and learning profiles, in order to ensure equitable access to learning for all students (Tomlinson, 2014). In practice, teachers

did not apply a one-size-fits-all method, but instead actively designed flexible instructional strategies to accommodate individual student needs. Technology with Differentiated Instruction theoretically referred to the integration of digital media and tools in the implementation of DI. In this context, technology did not refer to general digital tools, but specifically to technology-based instructional media such as Learning Management Systems (e.g., Google Classroom), interactive quiz applications (e.g., Kahoot and Quizizz), collaborative tools (e.g., Padlet and Google Docs), as well as visual and audiovisual media (e.g., Canva and educational videos). These technologies were used as means to deliver varied content according to students' learning styles, provide immediate feedback, and facilitate collaboration and flexible formative assessment (Hall et al., 2011; Heacox, 2017). Meanwhile, Teacher Stress was theoretically defined as the psychological pressure experienced by teachers due to heavy workloads, professional demands, time constraints, and the complexity of addressing diverse student learning needs (Kyriacou, 2001). This stress could affect teacher performance, motivation, and the overall quality of teacher-student interactions. Operationally, Differentiated Instruction (DI) in this study was measured by the extent to which teachers implemented adjustments in four key areas: content, process, product, and learning environment. These adjustments were aligned with students' readiness levels, interests, and learning styles. Data on these practices were gathered through teacher questionnaires and classroom observations. Technology integrated with DI was measured based on the type, intensity, and purpose of digital tool usage that supported the implementation of DI. This included the use of online learning platforms (e.g., Google Classroom), digital quiz tools (e.g., Kahoot, Quizizz), and visual media (e.g., Canva, YouTube, or interactive PowerPoint). The evaluation focused on how these technologies helped teachers personalize instruction, increase student engagement, and facilitate differentiated assessment. Meanwhile, Teacher Stress was measured based on teachers' perceptions of the pressure they experienced while planning and delivering DI. This stress was particularly associated with time constraints, limited access to technology, and the level of institutional support available. The stress indicators were adapted from the Teacher Stress Inventory developed by (Fimian,

1988). and were contextualized to reflect the challenges of implementing DI in classroom settings.

This study examines the implementation of Differentiated Instruction (DI) integrated with technology in English language classrooms. Preliminary observations conducted at SMA Negeri 4 Singaraja revealed that English teachers have incorporated this instructional approach into their teaching practices. The integration of DI with technology aligns with the mandates of the new curriculum, which underscores the necessity of adapting instruction to accommodate students' diverse needs, abilities, and interests. Consequently, the teacher confirmed that they have already incorporated differentiated instruction integrated with technology effectively within their classroom. However, the teacher also needs several problems that need attention. One of them is that the use of technology in differentiated instruction emphasizes how teachers must design the learning process in a way that might make students feel stressed. This is due to the need to teach with the help of various technologies, which not all teachers may master. Some teachers feel pressured and see technology as an obstacle in the teaching process. Therefore, there is concern that the goals of Differentiated instruction cannot be achieved optimally due to feelings of stress among teachers. The researcher aims to explore the implementation of differentiated instruction supported by technology and examine the levels of stress experienced by English teachers in the process of integrating this instructional approach.

1.2 Problem Identification

Based on the research background that has been presented and the results of initial observations carried out by researchers, there are several problems faced by tenth-grade English teachers at SMA Negeri 4 Singaraja related to the application of different instruction using technology. Information that has been collected from English teachers reveals that they use a variety of learning approaches integrated with technology to differentiate instruction according to student's needs and interests. At SMA Negeri 4 Singaraja, teachers who teach students with varying levels of ability feel the need to determine appropriate learning approaches to meet

students' preferences based on their interests and needs. This involves three main aspects in differentiating learning, namely learning content, learning process, and learning products. Teachers need to determine appropriate learning approaches for each student effectively, but this can be a challenge. With students' diverse abilities, technology can be an effective tool in differentiating learning by providing appropriate materials. This allows teachers as facilitators to meet students' individual needs in learning, especially in the context of English learning.

However, sometimes teachers still experience obstacles in fully integrating this technology, which can cause levels of stress and pressure, especially for those who are not yet familiar with the technology. Therefore, this research aims to help English teachers overcome the problems they face by observing the learning process that involves differentiation of instruction with the use of technology. This research also identified the level of stress experienced by teachers during the differentiated learning process involving technology.

1.3 Limitation of the Research

To examine this research more in depth, researchers must pay attention to several potential limitations. The researcher needs to limit the study to tenth-grade of English teachers at SMA Negeri 4 Singaraja during the 2023-2024 school year. This was due to the critical role of teachers as the primary source of information for researchers in observing the problem being studied. In English classes at SMA Negeri 4 Singaraja, there were various student abilities, so teachers needed to consider various learning approaches to meet students' individual needs. Therefore, the focus of this research investigates how English teachers at SMA Negeri 4 Singaraja applied different instructional approaches in English learning activities. This study focused on all English teachers as research subjects because they had a better understanding of the various learning approaches used in English classes. In addition, the use of technology in the learning process was also a supporting factor for teachers in differentiating instruction for students with various abilities. Additionally, this research study examined the stress experienced by teachers in integrating technology to implement differentiated instruction in classes with students who had diverse abilities at SMA Negeri 4 Singaraja.

1.4 Research Question

Based on the background of the research described above, the research questions were stated in such formulation below:

- 1) How was differentiated instruction integrated with technology implemented by the English teachers at SMA Negeri 4 Singaraja?
- 2) How were English teachers' stress in implementing differentiated instruction integrated with technology at SMA Negeri 4 Singaraja?

1.5 Research Objectives

Based on the research background, problem identification, research limitation, and research questions that described, the purposes of this research are:

- 1) To observed the implementation of differentiated instruction integrated with technology by the English teachers at SMA Negeri 4 Singaraja.
- 2) To investigated the teachers' stress using differentiated instruction integrated with technology is implemented in English class at SMA Negeri 4 Singaraja.

1.6 Research Significance

The researcher anticipates that this research study would hold considerable importance on multiple fronts. The significance of the research is poised to yield valuable insights both in theory and practical applications. This study encompasses two primary dimensions of significance: theoretical and practical, each offering unique contributions to the field, as explained in the following sections.

1.6.1 Theoretical Significance

This study is expected to contribute theoretically by serving as a reference for future researchers conducting similar studies. In addition, it aims to expand upon existing research by providing further insights into the topic. Specifically, this research offers a comprehensive analysis of the implementation process of technology-based differentiated instruction, conducted through direct observations and an assessment of the challenges and levels of stress experienced by teachers in

integrating technology into differentiated learning. Furthermore, the findings of this study are anticipated to serve as a valuable resource for other researchers, particularly English teachers, who intend to explore this area in their own investigations.

1.6.2 Practical Significance

Practically, this research is expected to offer several benefits as below:

1) Students

The results of this study are expected to provide information about teachers' stress when differentiated learning with technology was implemented.

2) Teachers

The findings of this study aim to enhance teachers' understanding, particularly regarding the application of differentiated instruction combined with technology in senior high school settings.

3) Other Researchers

These results can be used as a guide for other researchers as a reference for subsequent analysis and a source of additional knowledge when conducting similar research to enrich the knowledge and experience of other researchers in research, especially on the application of integrated learning with technology integration.

