CHAPTER I

INTRODUCTION

1.1. Research Background

Artificial intelligence (AI), particularly generative AI, has become a significant strength in educational transformation. This innovative technology provides personalized learning experiences, dynamic material developments, and interactive learning environments (Bojorquez & Vega, 2023; Cardona et al., 2023; Mureșan, 2023). Currently, various AI-integrated applications allow educators to adjust the learning materials based on students' needs, give instant feedback, and promote active engagement through digital quizzes, simulation, and immersive technology like Virtual Reality (VR) and Augmented Reality (AR). These innovations not only enhance learning quality but also reduce teachers' administrative load and promote differentiated learning instruction based on current curriculum needs (Cardona et al., 2023).

In the English as a Foreign Language (EFL) context, particularly in developing countries like Indonesia, AI integration has immense potential. English plays a massive role and has a significant impact in global communication, science, business, and technology (Nishanthi, 2018; Shehata et al., 2020). However, EFL teachers in Indonesia still face challenges, including differences in student abilities, resource limitations, and social and cultural influences on learning motivation (Jia & Zhao, 2020; Utami et al., 2021). In this context, generative AI can help provide teachers with adaptive and personalized learning experiences to bridge these disparities.

The utilization of technology in language learning is not a new phenomenon, as evident in the employment of Computer-Assisted Language Learning (CALL) and learning applications such as Duolingo and Memrise. Various studies have shown that those tools can promote autonomy, motivation, and students' language abilities (Benyo, 2020; Paul, 2020; Shokrpour et al., 2019). However, the effectiveness of technology utilization highly depends on the readiness, acceptance, and concerns of the teachers. Several studies in Indonesia have indicated that teachers have a positive perception of technology; however, a disparity exists between technical and pedagogical competencies (Crompton et al., 2022; Edmett et al., 2023; Milawati & Sholeh, 2019).

Teachers play essential roles in facilitating, motivating, and becoming role model for students. Pedagogical decisions, classroom management strategies, and teacher attitudes influence the success of technology integration (Crompton & Burke, 2023; Edmett et al., 2023). Understanding

teachers' readiness and acceptance are essential since these factors are not only determining technology adoption but also the effectiveness of technology utilization (Milawati & Sholeh, 2019; Utami et al., 2021). Without a clear understanding of teachers' current readiness, acceptance, and concerns, policies and training programs might become irrelevant to their actual needs (Bojorquez & Vega, 2023; Mureșan, 2023). By identifying these levels and positions, stakeholders can manage targeted interventions to ensure that professional development programs tackle the actual challenges and maximize the potential of generative AI in promoting learning and instruction.

In particular, Badung Regency in Bali is renowned for its progressive education and infrastructure. This regency has various nationally and internationally accredited schools that implement *Kurikulum Merdeka*, and are supported by quite advanced technology development. These initiatives are also supported by advanced building infrastructures, technological facilities, such as free high-speed internet, and school-based training centers that promote innovative teaching practices. However, preliminary interviews with four junior high school EFL teachers in the Mengwi district revealed that teachers were aware of generative AI, but not all of them regularly integrated it into their daily practices, as some considered the information on its practical benefits to be unclear. These preliminary findings revealed that, despite the presence of structural and Badung regional policies, there were still uncertainties and challenges at the individual implementation level, particularly for junior high school EFL teachers, that had not been fully

mapped. This study bridges the gap by measuring readiness, acceptance, and concerns regarding the integration of generative AI in ELT, providing an essential baseline to ensure conformity among policies, technology potential, and teacher capacity.

Based on these backgrounds, this study aims to explore the readiness levels for generative AI, the acceptance levels of generative AI, and the stages of concern regarding the integration of generative AI in English Language Teaching (ELT) among junior high school EFL teachers in Badung Regency. This study is expected to contribute to the development of technology-based educational policies, teacher training, and the empowerment of digital literacy.

1.2. Problem Identification

Artificial Intelligence (AI), particularly generative AI in education, has opened new opportunities for enhancing learning practices, including in English Language Teaching (ELT). In the ELT context, AI-based devices and tools offer personalized learning experiences, adaptive feedback, and interactive learning content (Bojorquez & Vega, 2023; Mureșan, 2023). However, the effective integration of generative AI in ELT depends on the readiness, acceptance, and concerns of the teachers (Crompton et al., 2022; Davis, 1989; Edmett et al., 2023). This phenomenon is particularly significant in Indonesia, where contextual challenges such as uneven distribution of digital literacy, limited infrastructure, and pedagogical disparities persist (Milawati & Sholeh, 2019; Utami et al., 2021).

Although several studies have explored Computer Assisted Language Learning (CALL) and language learning applications, such as Duolingo and Memrise, there is still a particular space to investigate the integration of generative AI in ELT, especially in local environments like the Badung, Bali context. Despite being well-known for their advanced education infrastructure development, and with many schools utilizing *Kurikulum Merdeka*, preliminary findings on four EFL teachers in Mengwi junior high school indicated that they were open to utilizing generative AI but were hindered by limited practical guidance, a lack of related training, and concerns about the teacher-student impact of generative AI utilization.

Furthermore, previous related studies on generative AI have focused on the theoretical benefits of generative AI in ELT, such as increasing learning engagement, learning efficiency, and outcomes, as stated in studies by Alshumaimeri and Alshememry (2024), Harry (2023), and Neha (2020). However, there is a gap in how those benefits can be well perceived and utilized by teachers in a direct classroom context. Understanding actual teachers' readiness, acceptance, and concerns becomes essential to ensure that the integration of generative AI is not only about a theoretical and technical baseline but also meaningful in terms of context and pedagogy.

Therefore, this study aims to bridge the disparity by measuring the readiness, acceptance, and stages of concern faced by EFL teachers in junior high schools in Badung Regency. By employing the E-Learning Readiness Model (Aydin & Tasci, 2005), the Technology Acceptance Model (TAM) (Davis, 1989), and the Concern-Based Adoption Model (CBAM) (Hall,

1974), this study endeavored to provide fact-based contextual insight to support a generative AI realistic and teacher-based implementation strategy. The study's findings were expected to inform policymakers, training developers, and EdTech developers about the practical needs of teachers in integrating generative AI into an ELT context.

1.3. Limitation of the Study

Regarding the background and problem identification, several key factors, including geographical context, research subjects, technology, infrastructure, teachers' experience, and professional development, became essential considerations for obtaining detailed and comprehensive data. However, this study set the limitation: exploring the readiness, acceptance, and concerns of junior high school EFL teachers towards generative AI in ELT in Badung, Bali, Indonesia. To obtain comprehensive data, several essential considerations were proposed as follows:

1.3.1. Teachers' readiness level in Badung Regency related to generative AI integration in ELT;

1.3.2. Teachers' acceptance level in Badung Regency related to generative AI integration in ELT; and

1.3.3. Teachers' concerns about generative AI integration in ELT.

Considering these points, this study offered relevant and specific insights into the implementation of AI in ELT in Badung Regency. Moreover, this study aimed to lay a foundation for future researchers in related contexts and settings and provide practical guidance for policymakers, educational

leaders, and EdTech developers in developing effective strategies and interventions to promote the integration of AI in ELT.

1.4. Research Questions

This study uncovered several essential questions about JHS EFL teachers' readiness, acceptance, and concerns regarding the implementation of generative AI in ELT in Badung Regency, Bali, Indonesia. The proposed questions were as follows:

1.4.1. What level of readiness do junior high school EFL teachers in Badung Regency have for integrating generative AI in English Language Teaching?

1.4.2. What level of acceptance do junior high school EFL teachers in Badung Regency have of generative AI integration in English Language Teaching?

1.4.3. How concerned are junior high school EFL teachers in Badung Regency regarding the integration of generative AI in English Language Teaching?

1.5. Research Objectives

Concerning the questions proposed, this study set the purposes to:

1.5.1. To assess the level of readiness among junior high school EFL teachers in Badung Regency for integrating generative AI in English Language Teaching;

1.5.2. To determine the level of acceptance of generative AI integration in English Language Teaching among junior high school EFL teachers in Badung Regency; and

1.5.3. To explore the concerns of junior high school EFL teachers in Badung Regency regarding the integration of generative AI in English Language Teaching.

1.6. Research Significance

This research had significance for various education stakeholders, especially in the ELT context in Indonesia. In the massive development of AI, this study served as a solution to address the limitations of contextual studies related to teacher readiness in adopting generative AI in ELT.

1.6.1. Contribution to Academic Literature

This study enriched academic literature related to generative AI integration by providing empirical data from junior high school EFL teachers in Badung Regency, Bali. This area represents the context of secondary schools in developing areas. By combining three theoretical approaches — E-learning Readiness Model, Technology Acceptance Model (TAM), and Concerns-Based Adoption Model (CBAM) — this study provides comprehensive contextual frameworks that researchers can adapt from different areas.

1.6.2. Practical Implication for Educators

This study helped teachers assess their readiness and concerns regarding the use of generative AI. This information can be utilized for self-reflection, managing a professional development plan, and promoting collaboration among teachers, such as peer mentoring or professional learning communities. This practice is relevant to the spirit

of *Merdeka Belajar*, in which teachers are empowered to be lifelong learners and agents of change in the classroom.

1.6.3. Guidance for Educational Leaders and Policymakers

This study provided guidelines for school principals, school supervisors, education offices, and policymakers in designing targeted teacher competency development programs. The study's results can be used to develop a differentiated generative AI training roadmap that is tailored to teachers' readiness levels and concerns. It aligns with the national policies of 'Deep Learning' in *Kurikulum Merdeka*, where technology is not merely a tool but an integral part of the learning process, fostering critical, reflective, joyful, and meaningful learning.

1.6.4. Support for EdTech Developers

This study revealed expectations and authentic challenges faced by teachers in utilizing AI-based tools. EdTech developers can utilize this information to develop a handy product, provide contextual support, and align with pedagogical goals. For example, developing bilingual features and AI utilization without relying on the internet can help minimize the challenges caused by a scarcity of internet access.

1.7. Definition of Key Terms

1.7.1. Artificial Intelligence

Artificial Intelligence (AI) is a computer science focusing on making a system that can do work requiring human intelligence, such as voice recognition, language processing, and decision-making (Cardona et al., 2023; Cojean & Martin, 2022a; Edmett et al., 2023;

Mureșan, 2023; Rahiman & Kodikal, 2024). AI-based technology has massive potential to revolutionize various aspects of life, including education. In the ELT context, AI plays an essential role in personalizing learning for students through an advanced algorithm system that can assess individual competencies and adjust materials based on students' specific needs (Cardona et al., 2023; Edmett et al., 2023; Harry, 2023; Kumar, 2023; Neha, 2020; Shokrpour et al., 2019). Additionally, AI can provide real-time adaptive feedback, helping students better understand the material concept (Bojorquez & Vega, 2023; Cardona et al., 2023; Mureșan, 2023). These things improve learning efficiency and make instructional activities more exciting and interactive. Furthermore, AI can optimize instructional activities by analyzing student interaction, enabling teachers to understand better students' learning patterns and challenges (Bojorquez & Vega, 2023; Edmett et al., 2023; Harry, 2023). Therefore, AI integration in ELT has massive opportunities for emancipated learning.

1.7.2. Generative AI

Generative AI is a branch of artificial intelligence designed to generate new, original content, such as text, images, voices, and videos, based on specific patterns and instructions. A generative AI system utilizes a deep learning model to recognize, understand, and provide relevant responses according to users' requests (Banh & Strobel, 2023; Direktorat Pembelajaran dan Kemahasiswaan, Direktorat Jenderal Pendidikan Tinggi, Riset, dan Teknologi, Kementerian Pendidikan,

Kebudayaan, Riset, dan Teknologi, 2024; Ooi et al., 2023). In education, especially in ELT, generative AI can provide various services, such as creating learning content, offering writing assistance, or even simulating conversations (Bojorquez & Vega, 2023; Cardona et al., 2023; Mureșan, 2023; Rukiati et al., 2023). For example, Gemini, ChatGPT, Github Copilot, Microsoft Copilot, Google text-to-speech, TTS Prosa, Podcastle, OpenAI TTS, Stable Diffusion, DALL-E, and Illustroke. The effectiveness of the integration depends on the digital literacy, readiness, acceptance, and concerns of teachers regarding innovative technology (Bojorquez & Vega, 2023; Edmett et al., 2023).

1.7.3. AI-Integrated Applications

AI-integrated applications are learning platforms connecting AI to enhance instructional effectiveness (Akbarani, 2023; Lesia Viktorivna et al., 2022; Liang Wei-Xun & Jia-Ying, 2024; M. Vijayakumar & G. Chellapandiyan, 2024; Pikhart, 2020; Rukiati et al., 2023; Vadivel et al., 2023). In ELT, these applications enable personalized learning, provide automatic feedback, and analyze students' learning patterns through data collected during their interactions on the platforms (Bojorquez & Vega, 2023; Cardona et al., 2023; Harry, 2023; Mureșan, 2023). In this way, AI-integrated applications support an effective learning climate and create adaptive and responsive learning environments.

1.7.4. Teachers' Generative AI Readiness

Teachers' readiness covers four dimensions: people, self-development, technology, and innovation (Aydin & Tasci, 2005; Sandy et al., 2021). The people factor relates to the interpersonal and institutional supports provided to teachers, such as facilitator provision, professional mentor guidance, and external technology vendors. The self-development factor refers to an individual's readiness in terms of personal motivation to develop professionally. The technology factor encompasses infrastructure readiness, including hardware, computers, internet access, and software. Besides, this factor also reflects teachers' readiness in technical skills to operate hardware and software. The innovation factor reflects the openness to change and innovation. This factor also covers how their environment supports innovation.

1.7.5. Teachers' Generative AI Acceptance

Teachers' acceptance of generative AI consists of two dimensions: Perceived Usefulness (PU) and Perceived Ease of Use (PEU) (Davis, 1989). Perceived usefulness refers to the extent to which teachers believe generative AI improves their job performance. It is highly influenced by their understanding of the benefits and potential of technology in improving instructional activities (Chun & Yunus, 2023). Perceived ease of use refers to the extent to which teachers believe generative AI is easy to understand, operate, and interact with.

1.7.6. Teachers' Generative AI Concerns

Teachers' concerns about generative AI encompass various aspects, including the impact on teacher-student interaction quality, the

role-switching potential of teachers, privacy issues, and data security. Teachers might feel that the existence of generative AI reduces direct classroom interactions, which is considered the central core of a practical and empathetic learning experience. Besides, the limitations of technology-related skills and infrastructure, particularly in remote areas, have become significant problems in the implementation of generative AI (Anatoliivna, 2024; Kaplan-Rakowski et al., 2023; Moorhouse & Kohnke, 2024). Ethically, the risks of personal data abuse and information security breaches generated by AI increase concerns about the adoption or implementation of this technology (Anatoliivna, 2024; Moorhouse & Kohnke, 2024).

In the Concerns-Based Adoption Model (CBAM) context, teachers' concerns can be mapped into several stages, guiding and interpreting their acceptance of new technologies. The stages are divided into seven, starting from unconcerned, which can be interpreted as teachers having little or no awareness of the innovation, until refocusing, which can be interpreted as teachers exploring ways to modify or improve the innovation to find better alternatives (Hall, 1974). The Concerns-Based Adoption Model facilitates a more accurate mapping of teachers' concern levels related to the implementation of new technologies. It provides a more profound understanding of teachers' concerns and adaptation changes. This approach might assist stakeholders in generating proper interventions to support generative

AI adoption, especially for junior high school EFL teachers in Badung Regency.

1.7.7. English as a Foreign Language (EFL)

English as a Foreign Language (EFL) refers to the process of learning English in countries where English is not the native language. In this context, EFL teachers face unique challenges in teaching English to students who do not speak English as their native language (Broughton et al., 1980). One of the challenges is that cultural and linguistic diversity influences their understanding of using English in instructional activities. Considering this phenomenon, EFL teachers must develop effective strategies, such as utilizing visual aids and using practical terms or expressions, to create a favorable climate that makes students comfortable practicing without concern for making mistakes (Broughton et al., 1980).

1.7.8. English Language Teaching

English Language Teaching (ELT) is a teaching practice of English for non-native speakers to help students develop their four essential skills: listening, speaking, reading, and writing (Brown, 2014; Peregoy & Boyle, 2016). Additionally, ELT involves the use of technology in education, including learning applications and e-learning, which enables students to personalize and enrich their learning experiences (Department of Education and Training, 2019). Through its holistic and integrated approach, ELT aims to equip students with solid

English skills, enabling them to communicate confidently and effectively in a wide range of contexts.