

# CHAPTER I

## INTRODUCTION

### 1.1 Background of The Study

Rapid growth of Artificial Intelligence (AI) has invaded the educational system in every corner of the world. AI is a broad term for a series of technologies that can perform human functions through a language processing system (Chiu et al., 2023). In the global educational context, the use of AI, including Generative AI (GenAI), has significantly increased. According to Holmes et al. (2019), the global trend showed that the intention of integrating GenAI in education is to heighten the efficiency and effectiveness of a lesson, which at the same time provides a more contextual learning experience for each student. Moreover, GenAI is not only used to personalize students' lessons but also to support teachers in lesson planning, giving automatic feedback, and providing an adaptive teaching strategy (Hong, 2023; Moorhouse, 2024; Ozdemir & Mede, 2024).

In Indonesia, the use of GenAI in education has shown a positive development, with many teachers starting to integrate GenAI into their work. GenAI is found to be the AI used by a large number of Indonesian educators, with 81,6% out of 38 random samples of educators admitting to having experience in using GenAI for teaching (Kharis et al., 2024). This finding is aligned with the result of an interview and survey from the preliminary study that showed 28 out of 29 English teachers in vocational high schools in Buleleng district are using GenAI for their teaching, such as for lesson planning, developing teaching materials, brainstorming, and creating questions for assessments. These findings confirm that

GenAI is *user-friendly*, provides a good experience to users, supports in providing personalized material, and helps to improve teachers' productivity and work efficiency (Kharis et al., 2024; Putra et al., 2025; Tasya & Dwinta, 2025).

The high usage of Generative AI (GenAI) in teaching does not necessarily guarantee that teachers are truly prepared in terms of technological self-efficacy, pedagogical integration strategies, and ethical awareness (Kusumaningrum et al., 2023). This indicates that the use of GenAI in the classroom still faces challenges in terms of teachers' overall readiness. Teachers who have low levels of readiness tend to experience over-reliance, or excessive dependence on GenAI, without cross-checking the quality of the content generated by GenAI. Teachers may also experience ethical unawareness, where they are insensitive to plagiarism issues, and a lack of pedagogical integration, where they are unable to integrate GenAI into more in-depth and appropriate pedagogical strategies. Furthermore, when teachers have a high level of readiness but the GenAI usage is intensive, they potentially encounter cognitive overload, where they feel overwhelmed in balancing their own creativity with the GenAI products. Therefore, it is important to explore teachers' GenAI readiness thoroughly, including the technological self-efficacy, pedagogical skills in utilizing the GenAI for increasing student interaction, and the ethical dimension, for teaching English in the vocational high schools.

Myriad studies about AI readiness have been conducted, especially at the higher education level and in the industrial world. Numerous AI readiness studies have been conducted with perceptions as the complementary research object (Chiu et al., 2023; Lee, 2024; Moorhouse, 2024; Ozdemir & Mede, 2024). However, those studies did not explore the three readiness dimensions included in the Readiness for

Artificial Intelligence Scale (RAIS) by Ramazanoğlu & Akin (2024), such as technology self-efficacy, student interaction, and ethical awareness, to complement the research on AI readiness. Moreover, previous AI readiness studies are found to be limited to involving English teachers in vocational high schools (Purnama et al., 2022; Wahjusaputri et al., 2024). In fact, vocational schools pose unique learning needs and characteristics, especially because of their focus on specific skills and work readiness. One study exploring general school teachers' AI readiness in the context of North Bali has been conducted (Purnama et al., 2022), though a study on EFL vocational high school teachers' readiness to use AI has not been conducted. This shows that the representation of the vocational school context, especially in the North Bali region, including the Buleleng district, is not adequately explored in the literature. Therefore, this study is important to fill this gap and provide a more specific picture of the EFL vocational high school teachers' readiness level in facing the integration of AI in teaching.

## 1.2 Problem Identification

In this digital transformation era, vocational school teachers are expected to be adequately ready to integrate GenAI into the teaching and learning process. This readiness includes a good understanding of GenAI concepts, an adequate technology self-efficacy, practical skills in using GenAI in the classroom for students, the ability to adapt appropriate learning strategies using GenAI, and awareness of misuse risks. When teachers are ready, the use of GenAI can help enhance the effectiveness of learning and prepare students to meet the demands of

a technology-driven workplace. In Indonesia, GenAI has begun to be introduced as part of the digital transformation of education, with numerous teachers today competing to use GenAI for teaching. However, frequent use does not necessarily indicate readiness, and many teachers are not yet aware of their level of readiness in integrating GenAI. This condition further emphasizes the need to evaluate the extent to which vocational high school teachers in this area are truly ready to face the technology-based curriculum changes.

### **1.3 Limitations of The Study**

This study was limited to analyzing the EFL teachers from vocational high schools in the context of the Buleleng district, which limits the findings' applicability to other institutions or regions. In addition, this study was limited to a sequential explanatory mixed-methods design, in which data were collected through a survey and a semi-structured interview. This condition may increase the potential bias because the data is self-reported answers, which may encourage participants to present themselves in a positive manner. Furthermore, the analysis applied in this study was limitedly focused on teachers' readiness based on the Readiness for Artificial Intelligence Application Scale (RAIS) framework, which only includes three dimensions, such as technology self-efficacy, student interaction, and ethical awareness (Ramazanoğlu & Akin, 2024).

### **1.4 Research Questions**

The research in this study focused on answering the following question.

1.4.1 What is the level of EFL teachers' readiness at vocational high schools in the Buleleng district to use Generative AI in the EFL classroom?

1.4.1.1 How is teachers' readiness in terms of technology self-efficacy?

1.4.1.2 How is teachers' readiness in terms of student interaction?

1.4.1.3 How is teachers' readiness in terms of ethical awareness?

## **1.5 Purpose of The Study**

This study aimed to identify the readiness level of the EFL vocational high school teachers in the Buleleng district in integrating GenAI into the teaching and learning process. Specifically, this study examined how ready these teachers are to use GenAI as part of their instructional practices. To provide a comprehensive understanding of teacher readiness, the research focused on three key dimensions included in the AI readiness scale. These dimensions consisted of technology self-efficacy, student interaction, and ethical awareness. Through the analysis of these dimensions, the study sought to provide a detailed picture of vocational EFL teachers' readiness for GenAI integration in education.

## **1.6 Significance of The Study**

### **1.6.1 Theoretical Significance**

This research is expected to be able to contribute to the literature development on technological integration in education, especially in the vocational high school context (SMK) in rural regions.

## 1.6.2. Practical Significance

### 1.6.2.1. For the Education Field

The findings of this research are expected to be a resource for educational stakeholders in designing AI-related policy, curricula, and training programs.

### 1.6.2.2. For Teachers

This research is expected to help EFL vocational school teachers understand their level of readiness and reflect on their ways of integrating GenAI in the classroom.

### 1.6.2.3. For Future Researchers

This research is expected to be the source of information for future related research or study. Future researchers can refer to the results of this research or implement the methodology of this study as the basis for further exploration in the GenAI integration in vocational education.

