

# CHAPTER I INTRODUCTION

## 1.1 Background of Study

The covid-19 pandemic has forced the educational system to rethink and redesign learning and teaching methods to meet current needs. Lack of preparation and difficulties faced by teachers, educational administrators, and institutions make new innovations that were not previously used in the educational system. The crisis caused by the pandemic made the education system carry out Emergency Remote Teaching (ERT) (Rapanta et al., 2020). This situation led us to hybrid or blended learning, which allows students to do face-to-face and online learning, as well as scheduled and independent classwork (Singh, 2017). This system change requires new learning methods and training for students and teachers which allows them to interact with each other remotely through the use of technology.

Technology in general has been rapidly improving from time to time and truly affects various aspects of society. Castells (2006; Selwyn, 2013) even stated that technology itself is the society nowadays. Despite its several deficiencies, people now depend on digital technologies in their daily life in order to live globally in this modern era, therefore digital technology has been cited as a key figure behind societal advancement all around the world for the past thirty-four years (Selwyn, 2013). The expansion of computing, the internet, and the mobile telephone, along with the pace and scope of contemporary digital innovation, have led many analysts to label digital technology as a major social influence. By developing technologies, it is possible to find solutions to some of the basic needs of society, including the education field which is also thirsty for the upcoming knowledge in post-pandemic learning. Hence, its enhancement has opened the gate to the entry of automation technology, which is an

essential part of modern technology that has brought great success because it is profitable to automate a task and is way more efficient than doing it manually (Susskind, 2020). Automation technology was firstly introduced by Sidney Pressey in 1925 using his own invention, namely the *Intelligence-testing Machine* which was able to automatically assess people's answers to thirty multiple questions asked in an intelligence test (Petrina, 2004). This innovation certainly helps educators who need to assess test answers from each student mostly every day. Automated systems are used to control a variety of operations that simplify, expedite, and make feasible various tasks that would otherwise be impossible, challenging, overly repetitive, or even harmful to humans (Norman *et al.*, 1995; Suplee, 1997; Hiltunen and Jarvinen, 2000). Until now, it has evolved beyond recognition in the education field, especially when the pandemic came. All educators and students must face the demands of being tech-savvy by using various tools of Education Technology (EdTech), mainly *Learning Management System (LMS)*, *Zoom*, *Google Meet*, and *Google Classroom*. Not to mention that it is also the 21<sup>st</sup> century era that makes teachers and students adapt and develop their abilities to the demands of the times. New approaches and abilities in the current era have been born in learning to train learners and provide experience in their lives and work in the future (Chalkiadaki, 2018). There are six elements focused on students in the 21<sup>st</sup> century era, which are character education, citizenship, communication, critical thinking, collaboration, creativity, and imagination. The application of all these skills can be achieved well with the creation of new and creative pedagogy, technology, and construction.

As time goes by, automation development has generated computer systems that can mimic human intelligence through language processing and are able to perform tasks with the information collected, that has known as Artificial Intelligence (Sumakul

et al., 2022). It was firstly introduced by John McCarthy twenty-seven years ago in his project as machines that could solve a problem and improve themselves to assist humans (McCarthy et al., 2006); Sumakul et al., 2022). Luckin et al. (2016) stated that Artificial Intelligence is hard to define because that depends on the fields that it is used, such as education, economy, psychology, economy, and many more. Nevertheless, it can be identified as a developed computer science branch known as a *human-assistant machine* (Nilsson, 2011; (Sumakul et al., 2022).

In formal education, AI is known to have both positive and negative impacts. However, AI has become a major policy agenda, especially in English Language Teaching (ELT), which makes the educational environment required to familiarize AI in the classroom (Tuomi, 2018). Some AI tools that have been developed in ELT are *Grammarly* (Fitria, 2021), *Quillbot* (Dale, 2020), *Google Translate* (Arsana & Julzarika, 2013). There is also one AI tool with a very advanced chatbot that has recently attracted a lot of people's interests called *ChatGPT*, which is a very sophisticated AI tool that can handle a variety of text-based requests, including responding to basic inquiries and carrying out more difficult jobs, such as making paragraphs, letters, even essays (Liu et al., 2021; Lund & Wang, 2023). Before AI was born, several technological tools that were used to support learning activities were *WhatsApp*, *Padlet*, *Google Classroom*, *Email*, and many more. Despite of many new technologies that have emerged which seem very promising, still various application challenges and limitations of technology have been found, but it does not rule out the influence and opportunities provided by technology regarding the many new and mentioned possibilities to be able to solve various old problems in education and in the classroom. It is shown in enthusiasm which was given by teachers and students in the ELT domain because learning with different contexts will be given and emerges, many of which have been proven to be relevant.

(Vygotsky, 1986) stated that a developed tool like AI can bring insights into individual students' talents, preferences and learning styles into a whole new level of personalization.

Several studies about AI have been conducted to find out teachers' and students' perceptions toward the use of AI in the classroom. (Sumakul et al., 2022) in their study showed that all teachers mentioned the benefits of AI in the classroom, indicating a positive perception of AI assistance. However, the integration of AI still has to be considered with its suitability with pedagogical competence, technological competence, and the level of student motivation. The other study conducted by Sumakul et al. (2021) showed students' perceptions of the use of AI in the classroom. According to the study's findings, students have a good impression of the benefits provided, particularly in writing. Students claimed that the AI application assisted them in identifying and immediately fixing writing errors. With these various perceptions, it is believed that generational differences also contribute to assessing how effective AI in the education field is. Today's generation was born when technology has been growing rapidly (Santosa, 2017), but does this affect their perception of AI? A recent study conducted in (2021) has determined the perception of university students in 2018-2019 academic year, that are mostly Gen Zs, about the concept of AI showed mostly negative perceptions of all samples (Keleş & Aydın, 2021). Moreover, positive perceptions were found in a study conducted by O'Neill & Russell (2019) that evaluated the perception of the Academic Learning Advisors, which are filled with Gen Y, toward one of the AI tools called *Grammarly*. Nevertheless, the results of some of these studies cannot be an absolute benchmark because each individual's perception is very likely to be different, especially in a distinct place.

Since the studies about AI-based application in the learning context is still new and have potential, not many researchers conducted this study, especially regarding the perception of the use of AI-based applications. Hence, the researcher is interested to conduct a study to investigate teachers' and students' perceptions toward the use of AI-based applications during post-pandemic learning in EFL classroom. The study is conducted at Undiksha Laboratory Junior High School because there are very limited studies that discuss Junior High School teachers' and students' perceptions of AI-based applications usage in English post-pandemic learning context in Indonesia, specifically in Bali. While AI is becoming more prevalent, it is still a relatively new technology to the students. Many of them have interacted with AI in limited contexts, such as voice assistants or recommendation systems. Meanwhile, the English teachers already see AI as the newest potential that can help learning English and have been using AI to help their English teaching in order to make some improvement in the English learning environment. Therefore, this research is conducted to fulfil the gap to find out teachers' and students' perceptions of AI-based applications in English post-pandemic learning along with the affordances and challenges.

## **1.2 Identification of Study**

The post-pandemic era has led teachers and students at to some technology that have helped during the distance learning when covid-19 pandemic happened and one of the technologies used is AI-based applications. Due to the emerges of AI-based application in the EFL classrooms during post-pandemic learning, this study is conducted to investigate what are the perceptions of the English teachers and students at Undiksha Laboratory Junior High School that have been implementing AI-based applications.

### **1.3 Limitation of Study**

To specify the discussion of the study, the aspects of the discussion is to investigate teachers' and students perceptions toward AI-based applications in English post-pandemic learning at Undiksha Laboratory Junior High school along with their affordances and challenges.

### **1.4 Research Question**

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

1. How do the teachers at Undiksha Laboratory Junior High School perceive AI-based applications in the English language post-pandemic learning?
2. How do the students at Undiksha Laboratory Junior High School perceive AI-based applications in the English language post-pandemic learning?
3. What are the teachers' affordances of using AI-based applications in the English language post-pandemic learning?
4. What are the teachers' challenges of using AI-based applications in the English language post-pandemic learning?
5. What are the students' affordances of using AI-based applications in the English language post-pandemic learning?
6. What are the students' challenges of using AI-based applications in the English language post-pandemic learning?

### **1.5 Purpose of Study**

1. To investigate the perception of English teachers and students at Undiksha Laboratory Junior High School regarding the use of AI-based applications in the English language post-pandemic learning
2. To examine the affordances and challenges of using AI-based applications for teachers and students in the English language post-pandemic learning

## **1.4 Scope of Study**

This study uses the explanatory sequential mixed-method. The focus of this study is mainly to investigate Undiksha Laboratory Junior High School's English teachers' and students' perception toward artificial intelligence-based applications along with their affordances and challenges in English language post-pandemic learning.

## **1.5 Significance of Study**

This study has theoretical and practical significance for the readers as can be described as follows:

### **1.1 Theoretical Significance**

This study is expected to contribute to advances in English teaching knowledge regarding teachers' and students' perception of artificial intelligence-based applications in post-pandemic learning.

### **1.2 Practical Significance**

#### **a. For the Teachers**

Teachers will understand how they can perceive AI in ELT based on the perception of the instructor Undiksha Laboratory Junior High School. They will also be able to comprehend the affordances and challenges of using AI in post-pandemic learning and take it into consideration. The result of this study on AI will be a significant factor in determining the appropriate and effective approaches and methods for their future learning activities.

#### **b. For Further Researchers**

The result of this study can be used as advanced data and information for further researchers in conducting related studies.