CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter contains the definition of the terms and synthesis the previous literature which related to English Learning, Artificial Intelligence, ChatGPT Based on AI, Mobile Assisted Language Learning and Related Studies.

A. English Learning

In the current era of globalization, English has become one of the languages that is needed and mastered. English is a universal language because it is used by most countries in the world as their main language. This language is also one of the world's foreign languages that needs to be learned and mastered to make communication between countries easier. In Indonesia, English is able to occupy a position that is very much needed in everyday life by Indonesian people. In fact, English is one of the lessons taught to students from elementary to tertiary level (Maduwu, 2016). Krashen, (1983) believes that to master a foreign language, students do not need to study grammar formally. Direct experience is an effective form of learning with the language itself. The deeper we learn a language, the easier it is for us to communicate to a proficient level with various groups.

This foreign language has begun to be introduced by the Indonesian government at the earliest possible age for students in the sense that they are ready to receive English language lessons through the 1994 basic education curriculum. Since the implementation of this curriculum, English has become a local content subject when students are in class. four. In the 2013 curriculum,

English lessons were set aside, but this does not mean that this subject is prohibited from being taught in schools, schools still provide English lessons through extracurricular programs.

The basic knowledge of English begins to be learned when students are in elementary school, this is the readiness that educators prepare for students to face increasingly significant developments (Amalia, 2023). English is important when the Indonesian nation can establish various forms of international relations with other nations, this can be said to be a sign of a nation's entry into the era of globalization. This is the reason why many people try to learn English well in order to be able to compete on a global scale, access the information and technology industry, and start teaching English to their children at a young age. English is taught well starting from elementary school level, meaning students will learn it earlier, so that when students start higher education they have a better basic knowledge of English.

B. Artificial Intelligence

Artificial Intelligence (AI) is one of the creative resources that continues to receive attention until the development of intelligence technology created by OpenAI. Artificial Intelligence is developing "intelligent" devices that act and react to things similar to the human brain, such as computer network systems (online platforms) and computerized machines (robots), (Karsenti, 2019). Artificial Intelligence is also generally known as the ability of machines to imitate human intelligence, as defined also by Schildt (1987) artificial intelligence will exhibit human-like behavior when faced with

problems that are similar to humans. This intelligence is what the machine predicts from the natural intelligence displayed to humans. It can be said, AI is about additional tools for human intelligence in the form of machines to carry out human tasks. Artificial Intelligence is a computer science technology that carries out search analysis and improvement of smart machines and applications. This is the science of having machines that can think and behave like intelligent humans. Artificial Intelligence has intelligence technology as the key, (Wang, 2019).

Intelligent behavior in humans, animals and machines can be found in ways that have been learned by AI. It consists of two words "artificial" and "intelligence" (Ahmet, 2018). The word "artificial" is a word that has an unreal meaning, it is being simulated, but it does not mean that it is completely false and deceptive. Meanwhile, the word "intelligence" has the meaning of an original item that can be replaced because the original has better quality in some contexts. Intelligence is a more complex term, it includes various forms, creativity, and consciousness. It does not mean creating a very intelligent, computer that takes care of all problems, but building and improving a machine that can have capabilities similar to human actions, (Joshi, 2020). Artificial Intelligence has a pretty good goal, namely to establish a machine that has the ability to resemble humans or display features that are traditionally consistent with human intelligence (Campesato, 2023). Understanding speech, making decisions, awareness of language, and visual perception are all parts of the human intelligence perspective that can be understood or comprehended by AI.

There is an application for AI regarding expert systems and finding solutions to quite complex problems such as natural language recognition or processing to be created (Devi et al., 2020). It provides individualized training offerings, feedback for learning, and a framework of activities required to obtain or achieve goals. That platform has a great promise, namely that it will speed up the time needed to improve capabilities (Kaur & Gill, 2019). Artificial Intelligence is a digital technology that attempts to achieve its goal, namely obtaining intelligence at the human level by using different effective machines. This is a series of advanced technologies that allow humans to enjoy, understand, utilize and learn from these machines. Artificial Intelligence (AI) can also be said to be an aspect of computer science that prioritizes the ability to think and behave like humans. This is supported by machines to find solutions and solve complex problems in a more human way (Sridhar, 2018). Therefore, things related to the characteristics of human intelligence are made necessary for borrowing, then these things will be combined in a computer-friendly way. Human actions such as planning something, learning, making decisions, and knowing language can be carried out by AI.

By technology and digital platforms that continue to experience changes and developments, English teaching and learning activities also become easier. This provides many opportunities to improve your English language skills with fairly easy access. Artificial Intelligence in English language teaching (ELT) activities is the most pragmatic method that can be used by English language teachers (Ribeiro, 2021). Updates or modernization in English language teaching and learning can be a good proposition through

AI engines, intelligent investigation, and natural language processing (Wang, 2019). In the world of education, technology is something that cannot be separated. Technology has potential and a high role in education, especially in the English language learning process. Technological developments are increasing, now computers can carry out processing based on Artificial Intelligence (AI) technology. One technology that is being widely discussed is ChatGPT. ChatGPT was created and developed by a research laboratory company, namely OpenAI.

C. ChatGPT Based on Artificial Intelligence

ChatGPT is a large-scale generative language system developed by OpenAI. The Generative Pre-trained Transformer (GPT) type, which has been successfully developed by OpenAI, has received very significant attention among these types of large language models. ChatGPT has become a language application that does not use considerable supervision so that human-like text on various subjects can be produced by it (Taecharungroj, 2023). In the world of education, that platform is used to develop things that can provide access to education for students who have physical or geographical limitations. With this new advanced technology, students can open this educational service whenever they want to access it without physical presence and distance being a limitation. Apart from that, it is also a tool that can be used as a sophisticated alternative tool for learning that is more flexible and affordable than traditional resources such as textbooks or personal teachers. 3. Interactive Learning Resources: that tool can be trusted to find various interactive teaching materials that can help students understand the material better. Students can ask any

questions on that tool, seek additional explanations, and get clearer examples.
4. Assignment Help and Problem Solving: When students are having problems or assignments, that platform can be an alternative tool for them. Students can ask questions as needed, get step-by-step instructions or suggestions. This can be one part of how to improve students' ability to solve problems independently and gain a deeper understanding for learning.

In the world of education, using that platform can change the way of learning and expand students' access to knowledge and guidance. However, it is very important to know and remember that the use of this sophisticated technology has its own challenges, such as data security and privacy, limitations in contextual understanding and reasoning, as well as integration with the existing education system. Therefore, it is necessary to carry out continuous research and development to be able to use and utilize the tool optimally in the world of education, while solving existing problems and challenges. This sophisticated tool is also not very effective for use in conducting research that requires quantitative data in the form of surveys. With a fairly small reach, that platform can still be used to obtain and search for data that is still global or general and has been stored in that tool database itself. ChatGPT (Generative Pre-training Transformer) is an intelligence system created by AI that has many functions that relate or interact in human-like conversations in text form. How to use this tool is quite easy. By starting to enter one or several questions, AI will provide answers that match those questions. Apart from that, ChatGPT also has other capabilities, such as correcting answers that are still inaccurate.

That platform has several functions such as, ChatGPT can be used for various needs, such as creating original text, translating languages, re-explaining a concept in a simple form, helping programmers solve code problems, as well as other capabilities that can make tasks easier for those who use it. The tool is able to help working carried out by customer service, in the business world many people use that platform as a tool to serve their customers. The Company's customer service application will be combined with openAI. Providing suggestions or recommendations that are still appropriate to the context, ChatGPT has similarities to humans, it can provide recommendations or suggestions regarding films that are currently viral, current outfits, or very close places to eat that we want to visit at any time. This AI technology will provide and monitor preferences and things needed by its users according to the requests submitted. In the other han, it could increase productivity, maximum use of ChatGPT can increase user productivity, this is because the AI system provides all the information and answers the user needs in a matter of seconds.

The platform helpful in the education sector, ChatGPT has an important role in the world of education. Teachers and students can open the necessary things to search and obtain various kinds of information with the help of Artificial Intelligence. Another function of that tool is, it is carrying out conversations, that platform has another function that is no less interesting, namely being able to carry out automatic conversations. Users can start by asking various questions, then AI will provide answers like a human conversation. An the last is providing various types of information, users can

find various types of information easily through this AI technology. Please note that the information that AI provides is only up to 2021.

The use of ChatGPT as a source of learning English is supported by various language learning theories that emphasize the importance of interaction and feedback in language acquisition. This theory refers to the interactional approach proposed by Long, (1996), which states that interaction and negotiation of meaning are key in the second language acquisition process. These media provide opportunities for students to engage in interactive conversations and receive real-time feedback, which can improve their understanding and language skills. Apart from that, usage-based theory states that language mastery occurs through repeated exposure and use in meaningful contexts. By using ChatGPT, students can practice using English in a variety of contexts, strengthening their linguistic knowledge through intensive and varied practice, Ellis, (2006). These platforms also facilitate a constructivist approach where effective learning occurs when learners actively engage in the learning process and build knowledge through social interactions with more expert agents, in this case AI-based language models such as ChatGPT (Vygotsky, 1978).

D. Advantages and Disadvantages Of ChatGPT

The first advantage that can be obtained from using ChatGPT is that it provides a variety of reliable and fast information. Moreover, this technology can provide quite significant suggestions and recommendations regarding things that the user tends to do. The following are the advantages of ChatGPT, it can respond quickly, that platform is able to provide all the answers users

need in just a few seconds. This capability is provided and created deliberately by AI to be more responsive. The second, can filter negative requests. Another advantage of this product is that it can sort out inappropriate user requests, for example how to bully other people. That tool will detect similar things as bad things and refuse to provide answers to its users. Not only that, the system will also explain the bad things about this action. The third is able to use natural grammar, that tool was created to share and provide answers using natural or human-friendly language. The language they use in answering or providing information will be easy to understand. So users can interact with humans as usual. The fourth is sensitive to queries so that the answers shared are correct, the tool is made sensitive to query adjustments. This is so that users can ask different questions but with the same meaning and significance.

Apart from the advantages, there are several disadvantages. The first is having limitations in understanding, very different from humans who have the expertise to explore accurate information from various sources, what the platform does is only provide appropriate and sufficient responses to its users' questions. Therefore, even though this feature can provide answers that humans need, supervision and human intervention are still needed. The second is still not yet able to shift creative workers, as previously explained. One of ChatGPT's capabilities is creating content and copywriting. However, content creation and copywriting are not as easy as assembling text, because the ability to avoid duplication, variations, and apply empathy and emotion in text is still one of the most important things in content creation. This aims to ensure that the resulting content can be personalized according to the target user.

Therefore, it is very possible for this tool to be used as an additional tool when working. However, human creativity is still unmatched and replaced by AI. The third is the answer is not always correct, the next weakness of that tool is in terms of the accuracy of the answer. This robot has been trained to understand many things that come from internet data. Therefore, the information that has been obtained may be inaccurate. This will of course have an influence on the reply which may result in errors in the reply. The fourth is not being able to differentiate between opinions and facts, this platform still cannot differentiate between these two things. Therefore, it is very important to keep checking the answers and information provided by ChatGPT. And the last requires a stable internet network, the last drawback in that platform is having a good internet network so that the tool can work optimally because if the internet network is not good, this chatbot will give lots of bugs and not be able to provide appropriate answers.

E. Mobile Assisted Language Learning

The term Mobile Assisted Language Learning (MALL) was criated by Chinnery (2006), who argued that mobile devices could be used as pedagogical tools for language learning. However, research and publications related to the use of mobile devices in foreign language teaching / learning have been recorded since 1994 (Burston, 2013). Information and communication technology in the current era requires us to have competent skills in the field of technology and the language to use. Technology and language are two things that cannot be separated from human life, where we as humans always need and use technology and language in everyday life. Technology and language

have the same use of bringing society to higher levels of modernization through communication.

One of the improvements that we can see is from various kinds of electronic devices, namely mobile devices which are assisted by the internet, and almost all people are never separated from the life of modern society in carrying out their activities. Mobile devices and smartphones are no longer objects that are considered foreign to today's society and almost all of them have these objects even though various groups can have them. In the current smartphone era where everything is mobile, CALL which was the initial concept has now been developed into MALL (Mobile Assisted Language Learning). It has been connected to mobile technology in the language teaching and learning process where students do not have to be in the classroom or in front of a computer for them to learn language, (Miangah & Nezarat, 2012). Therefore, it allows people who want to use it to motivate themselves to learn English individually and independently anytime and anywhere (Yuliawati, 2018).

The discussion about this has the same purpose as stated by (Gangaiamaran & Pasupathi, 2017) that MALL has several characteristics or uniqueness that are not present in CALL, namely mobility and profitability; context sensitivity; social connectivity; as well as individuality. In language learning, technology such as smartphones, tablets, iPods and iPads can be used in mobile learning and with increasingly developing functions and features, these devices play an important role in improving one's English language skills (Shanmugapriya & Tamilarasi, 2013). The rapid development of mobile device

technology is supported by the various operating systems used in them, and one of the most popular among people today is the Android operating system (Shanmugapriya & Tamilarasi, 2013).

Android is a Linux-based operating system which includes an operating system, middleware and applications released by Google (Nazruddin, n.d.). On Android-based mobile devices, users can download various applications via app stores such as 'Google Play' for free or for a fee. Applications that can be downloaded include game applications, entertainment, education, and others. In the education sector, various types of English learning applications can be downloaded with the Android operating system, such as 'Learn to Speak with Busuu', 'Hello English', 'VoLT', 'Learn English Daily', 'Learn English Grammar Quickly', 'Learn English Conversation – Learning & Speaking', 'LearnEnglish Audio and Video', 'English Conversation Practice', 'Memrise', 'Duolingo', 'Rosetta Stone', 'Voxy', 'My Word Book', and 'Learn English Kids: Videos'. With students' still low English language skills as stated previously and by linking this to advances in existing mobile device technology, the author conducted this research to determine the extent to which language learning applications on mobile devices, especially those based on Android, are used to help students master the language. English.

F. Previous Studies

The review of previous research aims to prevent plagiarism. The researcher discovered several studies related to this subject while producing this thesis. The first research is arranged by Fitria, (2023) entitled "*Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of*

ChatGPT in writing English essays". This study reviews how ChatGPT writes English essays. Based on experiments that have been carried out, ChatGPT can answer all questions about various topics such as English essays including descriptive text. ChatGPT pays attention to the order of events and the order of writing, including the use of main sentences, explanations, and conclusions. The similarity of this research with the previous study is the discussion of using ChatGPT in English language learning. The differences between both are the variables of the research. The previous research used qualitative descriptive method, while this research uses quantitative method. This research discusses ChatGPT as a source of learning English, while the previous study is the review of ChatGPT in writing English essays.

The second previous study is by Ali (2023), entitled "*Impact of ChatGPT on Learning Motivation: Teachers and Students' Voices*". Previous research discussed how ChatGPT impacts English language learning. The aim of this research is to explore its impact on students' motivation from the teachers' and students' perceptions and examine significant differences. This research has several similarities with previous research such as quantitative research is also used in the study, responding to online questionnaires, the subject is the same (students), and discussing perceptions regarding ChatGPT in learning. The differences are the subjects, the previous researcher used two types of participants, not only students but also teachers, whereas in this study the subjects were only students and had a larger number of subjects, namely 167 subjects, using close-ended and open-ended to collect the data, and focuses on ChatGPT as a source of learning English.

The third previous study is by Salmi & Setiyanti, (2023), entitled "*Students' Perceptions of the Use of Chatgpt in the Era of Education 4.0*". The purpose of this study is to understand student perceptions of the use of ChatGPT and to gain insight into how students view the use of ChatGPT as a communication or assistance tool in an educational context. The similarity of this research with the previous one is that the previous researcher uses the qualitative method, discussing student perceptions regarding the use of ChatGPT, the subjects are students, and the data collected also uses a questionnaire distributed via Google Form to explore students' perceptions. The differences are the purpose of the research, this research is about students' perceived impacts of ChatGPT as a source in learning English on their competence, while the previous aim was to understand students' perceptions of the use of ChatGPT and to gain insight into how students perceive its use ChatGPT as a communication or assistance tool in an educational context. This research uses quantitative methods with a larger number of respondents than previous research.