CHAPTER II

LITERATURE REVIEW

This section contains definitions of terms and a summary of previous research related to ChatGPT, the application of ChatGPT, writing process, and perceptions.

A. ChatGPT

1. The definition of ChatGPT

ChatGPT is an innovative language generation model that was introduced by OpenAI (San Francisco, California) in November 2022. ChatGPT is a variation of the OpenAI GPT-3 artificial intelligence language model (T. B. Brown et al., 2020). It was introduced in 2021 and is meant to produce text that sounds like people speaking. In the media and tech industry, this has received significant attention. GPT-3 is known for its large dimensions, having 175 billion parameters, making it one of the largest language models available today. It is renowned for its ability to perform various language tasks such as translating, summarizing, question answering, and text generation without requiring significant specialized training (Cotton et al., 2023). The model has been tested on various types of text, such as articles, books, and websites, allowing it to understand user input, create responses, and maintain consistent discussions on various topics (Chan & Hu, 2023). ChatGPT or GPT-3 has become the foundation for many applications that include the ability to perform language

translation, content creation, and language modeling. ChatGPT is also capable of generating summaries of long documents. ChatGPT is a chatbot that can interact and respond to users with natural conversation as if they were interacting with a human.

The ChatGPT application uses the Generative Pre-trained Transformer (GPT-3), a powerful machine learning software developed by OpenAI. GPT is a broad type of language model that utilizes deep learning to improve its output (Rospigliosi, 2023). A diverse language model can make ChatGPT usable by people from different countries where it responds according to the language input written by the user. Producing output that is easy to understand because it can adjust the user's language is one of the advantages of this chatbot.

ChatGPT has achieved great things thanks to its ability to mimic human language and provide answers to complex questions, and only continue to improve in the future (Aljanabi, 2023). The development of technology today, ChatGPT also does not want to be inferior to other AI where it continues to develop very significant capabilities so that it can facilitate its users. ChatGPT is an example of a Large Language Model (LLM), a type of artificial intelligence trained with large texts to learn the relationships between words in human language using statistics and computation. The goal is to generate human-like texts by following patterns learned from such methods (Rospigliosi, 2023). The intelligence embedded in ChatGPT generates highly relevant responses, creating an interaction

experience that closely resembles communicating with a real human. ChatGPT is capable of understanding expectations, sensing emotions, and interpreting human intent, resulting in responses that often leave users in disbelief that they are interacting with an artificial entity.

2. The Function of ChatGPT in Education

ChatGPT can be used in the field of creative writing and content creation to (i) generate original story ideas, plot outlines, and character descriptions, (ii) help writers overcome writing difficulties by suggesting creative directions and writing prompts, (iii) automatically create content for blogs, articles, and social media posts according to specific input parameters and style preferences, (iv) edit and proofread written content so that it conforms to the desired style (Ray, 2023). Furthermore, with its large data warehouse and efficient architecture, ChatGPT can even write dissertations on topics such as the use of AI. For researchers in academia, this is the distinct value of ChatGPT (Chinonso et al., 2023). Based on the explanation above, this ChatGPT function mostly leads to being used to help write. With the help of this tool, writers can get a variety of creative and more unique or interesting ideas. In addition to providing interesting ideas, ChatGPT can also respond to the form of suggestions or can even help to correct the writing inputted into it. This is certainly very useful for researchers in the academic field.

ChatGPT is useful in providing a lot of information that can be used as a reference for its users. Artificial intelligence systems in the form of

chatbots can be applied in education to create customized learning experiences for each student. For example, an AI chatbot could be utilized to support students in learning a new language through live interaction, providing feedback and corrections as they engage in conversation (O'Connor, 2023). The wide availability of information makes it a rich source of reference for users. In education, for example, ChatGPT can help students and teachers by providing learning materials, answering questions, providing explanations, and even providing guidance on the topic being studied.

ChatGPT can also be a useful tool in a variety of contexts, including scientific research, decision-making, and even in everyday situations. With its ability to understand language and provide relevant information, ChatGPT assists in presenting solutions, providing insights, and expanding its users' knowledge. By providing guidance on best practices, standards, and code documentation, ChatGPT can support developers in creating clear, concise, and easy-to-understand code explanations (Ray, 2023). In addition, With the sophistication offered by this chatbot, users will truly get a very beneficial convenience to help them in their work, especially in the field of education. ChatGPT provides a variety of information, is able to provide relevant responses, helps provide solutions and directions, and can even facilitate learning by providing recommendations that are very easy for users to understand.

3. Advantages and Disadvantages of ChatGPT

1. Advantages

The development and application of conversational AI models such as ChatGPT has many significant and far-reaching benefits. In addition, the development and application of these models can change the way we interact with technology, communicate, and obtain information (Mattas, 2023). Furthermore, ChatGPT is indeed a tool created with various capabilities that can be utilized because it can provide various information. It is no longer unusual that ChatGPT is currently one of the tools used by many people from various circles. In the field of education, for example, this tool can help students and teachers in providing materials for teaching materials, such as learning materials, answering questions, providing explanations, and even providing guidance on topics that are currently needed by users.

The biggest possibility for ChatGPT lies in its integration with other types of artificial intelligence, such as computer vision. By combining the linguistic capabilities of ChatGPT with the visual and physical computer sophistication of computer vision and robotics, we can design revolutionary AI systems, changing the way humans interact with technology (Aljanabi, 2023). From the opinions outlined it can be seen that ChatGPT when combined with robotics technology bring great advances in human interaction with technology. This would allow humans to design robots that can not only understand human language

but can also see, move, and respond to physical needs in the surrounding environment. This could lead to the development of more sophisticated personal assistants, capable of assisting in a variety of physical and mental tasks, such as helping people with disabilities, making physical labor easier, or even becoming an assistant for precision medical surgery.

One thing that is very interesting for users of sophisticated tools today is that these sophisticated tools can interact with users like humans. Users feel like they are directly adapting to other humans like friends or family without having to feel awkward when interacting. This is one of the advantages of this chatbot that it can customize its responses based on each user's specific preferences and needs. For example, a more formal user may receive a more serious response, while someone who is more casual may receive a more relaxed response. With this approach, the service provided by ChatGPT can be customized in a more personalized manner, increasing user satisfaction and overall service quality. One of the exciting potentials of ChatGPT is its ability to adapt to each user through understanding their habits and preferences. By gathering information about the user's language, intonation, and communication style from ongoing interactions, ChatGPT is able to provide more appropriate and relevant responses over time. By teaching ChatGPT to understand and respond to each user's unique needs and

preferences, increased levels of personalization can improve overall customer service and education (Aljanabi, 2023).

2. Disadvantages

Despite its significant strengths in providing information, ChatGPT still has weaknesses that require room for improvement in understanding more complex contexts, interpreting information more accurately, and updating and adjusting the information provided according to changes that occur over time. This is supported by the opinion that ChatGPT's ability to generate human-like text increases the possibility of impersonation and identity theft. Organizations should carefully consider this possibility and take appropriate measures to prevent this from happening when using ChatGPT or similar technologies (Deng & Lin, 2022). Furthermore, people as users must further raise awareness of the risks posed if this tool continues to provide invalid information or false information that can cause harm.

One of its main limitations is that it can only generate text based on the input given to it. Also, it does not have the ability to browse the internet or access external information (Deng & Lin, 2022). One of the limitations that the ChatGPT system has is its dependence on the input given to it. Despite being able to generate text that is often coherent and informative, ChatGPT still needs the initial information provided by the user in order to respond or provide information. This limitation suggests that while ChatGPT is capable of providing reasonable responses in

many situations, there are still limitations that need to be addressed, particularly in terms of reliance on information already provided as well as in terms of access to evolving external information.

B. Writing

1. The Definition of Writing

Writing is one of the four skills in English that need to be taught. Many students express that writing is the most difficult aspect of English, due to their lack of knowledge about what to write and how to do it (Asriati & Maharida, 2013). So from this opinion, it can be seen that writing is a skill that should not be ignored in learning English. Of the four skills of listening, reading, speaking, and writing, it is the writing skill that is often a challenge for many students. Lack of knowledge is the basis of their difficulty in writing.

One of the most important skills that students learning a foreign language must develop is writing. It is the last stage in language learning, after listening, speaking, and listening. In other words, researchers can conclude that writing serves as a gauge of whether students have mastered all the skills it requires. Students must be able to read, listen, and speak before they can write. Writing is different from speaking, listening, and other skills. Writing is a creative way to convey thoughts, ideas, knowledge, and feelings. Writers must be proficient in using grammar, language structure, and vocabulary when writing (Mantra et al., 2021).

Writing is a progressive activity, not just a description of a topic (Ariyanti, 2016). Writing is not just an activity that describes or explains a topic, but an evolutionary process that allows one to explore ideas, broaden horizons, develop points of view, explore depths of meaning, and bring about transformation in ways of thinking and conveying information in a way that inspires, educates, and makes a significant impact on the reader or audience at hand.

Writing has very special features. It has distinctive characteristics not found in other skills. These include deep involvement and engagement in the process, whether working alone or in collaboration, in diverse levels of consciousness, and involving both the physical and mental dimensions of a person (Mantra et al., 2021). The writing process, as an activity, comes with a truly unique feature. It carries a set of characteristics that distinguish it strikingly from other skills. The development of writing involves a profound amount of involvement in the process, whether the individual is working alone, in collaboration with other individuals, or perhaps in a form that involves several individuals simultaneously. This dimension of engagement can occur at varying levels of awareness, whether consciously or unconsciously. Moreover, writing also involves several dimensions, not only mental but also physical, of the individuals involved.

2. The Purpose of Writing

Writing is an activity that involves the expression of thoughts and ideas in written form. has a purpose. The purpose of this writing activity varies greatly, the following is explained by (Pratama, 2021):

1. Writing to inform the reader

   Writing in this concept aims to provide some information to the reader with an educational purpose. The information is expected to be thorough, detailed, and accurate. In general, in a piece of writing, the writer tends to elaborate on information related to the subject being discussed. Some examples of this type of informative writing include newspaper articles, scientific or business reports, instructions or procedures, and essays for academic purposes at school or university.

2. Writing to persuade

   Persuasive writing has the ability to change the reader's view or bring the reader's point of view closer to the writer's because the goal is to convince the reader of the writer's opinion. When people write, then it is not only talking about peoples' opinions, but also providing evidence that convinces the reader.

3. Writing to entertain the reader

   Writing to entertain is writing that can engage the reader's feelings through the storyline or the emotions expressed in it. The writer can write something serious, even sad, but also funny. To keep the reader entertained, the writer must also be creative or imaginative. Novels,

stories, poems, song lyrics, plays, and screenplays are some examples of writing that aims to entertain.

3. **The Process of Writing**

Writing methods that focus on cognitive processes are known as writing processes. Students' metacognitive awareness of the writing process should be enhanced. This method considers writing as a mental process in which students must go through various steps to achieve the final result. In addition, to write must combine ideas which are then organized into good paragraphs that are clear enough for the reader (Setyowati et al., 2022). So writing is not only pouring creative ideas into a writing script, However, when writing, it is important to understand whether or not the writing easily understood by the reader. Therefore, if the reader can understand well the purpose or content of our writing it means our writing has succeeded in achieving its purpose.

Students who write must pay attention to the writing process so that they can produce good writing. Good writing means good in terms of language, content, purpose, and intended audience. Some of the characteristics most commonly identified as the "stages" of the writing process are prewriting, planning, drafting, revising, editing, and publishing (Williams, 2003).

1. In the early stages of prewriting, writers can do many things to help develop their ideas through various means such as discussion, talk-writing, journal writing, and metaphors.

2. In this planning stage, the writer designs questions about the reader, the writer's position, the purpose of the writing, the organization, and the writing conventions considered important.

3. Next is the drafting stage, at this stage the writer does the drafting, organizing, and planning time, and focusing on related ideas is very important.

4. In the revising stage, writers have a responsibility to engage in a process of deep reflection on their role and the intended audience. In revising the writer improves grammar or writing style, articulates the message more effectively, and ensures that the writing achieves the desired impact.

5. Editing stage, in this stage the writer must review each sentence carefully, ensuring clarity of expression and coherence in the use of punctuation. The writer must check all elements of the language carefully to avoid inaccuracies that can interfere with smooth reading.

6. Finally the publishing stage, is the end of the writing process. At this stage, the writer must ensure that their writing is ready to be read by readers. But before publishing, the writing results must be ensured that the format and writing style are in accordance with the standard or template used as a reference. Writers must also consider how they distribute their writing so that it can be freely available to the public.

4. The Types of Writing Performance

Here are the types of writing performance described by (H. D. Brown, 2004):

1. Imitative

In producing a piece of writing, students should be able to develop basic skills in essential tasks, such as writing letters, words, punctuation, and very simple sentences. Spelling correctly and understanding phoneme-grapheme correspondences in the English spelling system fall into this category. This is the stage where students attempt to master the basic mechanics of writing. At this stage, form is the main if not the specific focus, while context and meaning are only ancillary.

2. Intensive (controlled)

In addition to the basics of imitative writing, there are skills in creating appropriate vocabulary in context, using collocations and idioms, and using proper grammar for sentence length. Although meaning and conjunction are important to determining accuracy and appropriateness, most assessments emphasize the form aspect and are tightly controlled by the test design.

3. Responsive

In this assessment task, students must perform at a limited discourse level, connect sentences into paragraphs, and create a sequence of two or three logically connected paragraphs. Pedagogical directions, outlines, criteria, and other guidelines are for responding to these tasks.

Narratives and descriptions, short reports, lab reports, summaries, short responses to readings, and interpretations of charts or graphs are examples of writing genres. In certain situations, writers begin to utilize their freedom to choose between different forms of conveying ideas. Writers have mastered the basics of grammar at the sentence level and concentrate more on discourse conventions that help achieve the purpose of the text. Form-centered attention mainly occurs at the discourse level with significant emphasis on context and meaning.

4. Extensive

Extensive writing involves the successful management of the entire writing process and strategy for all purposes, including lengthy essays, term papers, large research project reports, or even theses. They concentrate on achieving goals, organizing and developing ideas logically, using details to support or illustrate ideas, showing syntactic and lexical variation, and in many cases engaging in a process of multiple drafts to reach a final product. The focus of writing is on grammatical form limited to occasional editing or proofreading of drafts.

5. The Problem of Writing

Writing is a process that involves many aspects such as creative and innovative aspects that make writing a challenging thing for many people. When writing, someone will be faced with several challenges or problems.

Then what are the basic problems that are often faced by most people. Here are some problems when writing described by (Gorospe & Rayton, 2020):

1. Students often face complex challenges in the writing process, where they have to pay attention to certain aspects such as syntactic structure, correct application of grammar, and selection of appropriate vocabulary to convey their ideas.

2. Some of the factors that significantly affect students' writing skills include students' lack of regular reading and writing activities, lack of consistent practice in honing writing skills, lack of creative ideas to develop narratives or arguments, and low levels of confidence in expressing themselves in writing.

C. Students' Perception

1. The definition of Perception

The term perception can be used in different ways. Firstly, perception can refer to one's personal experience of seeing, hearing, touching, tasting, and smelling objects and people around them. However, perception can also refer to the process that allows one to derive information from the energy patterns received by one's senses (Rogers, 2017). From this explanation, it can be explained that the definition of perception includes a variety of different meanings and concepts. First, perception can be defined as a person's personal experience when they interact with the surrounding world. In obtaining this perception, which involves senses such as seeing,

hearing, touching, tasting, and smelling, it describes the way a person perceives and responds to objects and individuals around them. This is the subjective dimension of perception, where each individual has their own unique view and interpretation of the world. Each person's view and interpretation inevitably vary. Secondly, perception can be defined as a broader cognitive process. This process involves a person's ability to derive information from the patterns of energy received by each person's senses. This process allows a person to build a deeper understanding of their environment, identify patterns, and respond accordingly. These two concepts, perception as a subjective experience and as a cognitive process, are interrelated and complementary. A person's personal experience in interacting with the surrounding world contributes to the formation of their understanding of what their senses are picking up, while the cognitive process helps a person organize the information received into a framework of understanding that is easier to grasp.

Perception is the basis of all forms of human experience and understanding, encompassing aspects such as perspective orientation, the distinction between figure and background, focus, and horizon (Marleau-Ponty, 2012). Perception as the basis of all forms of human experience and understanding, is the key to a deeper understanding of how a person can interact with the world around them. The aspects involved in the process of perception are not simple. They are interconnected and influence each other, forming the basis for human experience and understanding.

Viewing perception as a set of processes has the advantage of covering situations where subjective experience is not involved, such as controlling balance by using visual and proprioceptive (perceived position) information (Rogers, 2017). So viewing perception as a series of processes brings significant advantages, especially in situations where subjective experience is not the dominant factor. One concrete example is when trying to control body balance, where visual and proprioceptive information play a major role.

2. The Types of Perception

Individual interaction in perceiving an object results in the emergence of two types of perceptions (Irwanto, 2002). These perceptions involve:

a. Positive Perception

Positive perception involves understanding all information, including what one knows and what one does not know, and involves a response followed by an effort to implement it. Thus, it can be concluded that when someone has a positive perception of an object, it will trigger a positive response (Irwanto, 2002). This positive response also reflects that there is a good response to the object being perceived. In other words, positive reactions reflect support and conformity with the norms that exist in the individual's social environment.

b. Negative Perception

Perceptions include all information, regardless of whether the individual knows it or not, as well as behavior that is not in line with the

object being perceived (Irwanto, 2002). Perception is the process of incorporating all information, regardless of whether the individual has prior knowledge or not, and involves responses or behaviors that are not in line with the object being perceived. In this context, (Irwanto, 2002) emphasizes the importance of a thorough understanding of the information at hand, independent of individual knowledge. Furthermore, the perception also includes aspects of behavior that show incongruity with the object being observed. In other words, individuals may exhibit incongruent responses or unsupportive behaviors towards an object based on their interpretation of the information received. It is important to understand that perception includes not only prior knowledge, but also responses and actions that may reflect a subjective view or evaluation of the object.

Furthermore, (Damayanti, 2020) details the view of Azwar which states that when someone gets a positive response, they are likely to feel like it or tend to approach it. Conversely, negative reactions tend to encourage individuals to stay away from the object or situation in question. (Irwanto, 2002) highlights the significant impact of both positive and negative perceptions on decisions taken by individuals. A person's self-disclosure or representation of their knowledge about something is, in the end, influenced by the positive or negative impressions they have. Both evaluations, whether positive or negative, have substantial implications on the actions taken by individuals. The

formation of an overall positive or negative impression depends on the way each individual formulates his or her knowledge about an object that is the focus of his or her attention.

3. Students' Perception

Students' perceptions include the complexity of their thoughts, beliefs, and feelings related to the individuals, situations, and events they experience (H.Schunk & Meece, Student Perceptions in the Classroom, 2009). The understanding that students have is not just a series of thoughts, beliefs, and feelings, but also involves complex aspects that arise from their interactions with individuals, situations, and events in the context of their learning. Students' thoughts reflect an active cognitive process, where they combine information from the surrounding environment and create a personal understanding of it.

D. Previous Studies

There are some previous studies which related to this research. First study is from Athanassopoulos et al., (2023). The focus of this study was to evaluate the effectiveness of ChatGPT in improving vocabulary and grammar skills. The results showed that after using ChatGPT there was an improvement in students' writing skills in the aspects of vocabulary, number of words, uniqueness of words, and average number of words per sentence.

The similarity between this study and the previous study lies in the focus of analysis which evaluates the use of ChatGPT to support students in writing.

However, the significant differences between the two are in the approach and research subject. In the previous study, the analysis focused on the application of ChatGPT to junior high school students, while this study examined students' perceptions of the use of ChatGPT to assist their writing. In addition, another difference is this study involves all English students who use ChatGPT, while the previous study only focused on junior high school students.

The second is a study by Marzuki et al., (2023). The main purpose of this study is to investigate various artificial intelligence-based writing tools and assess how their use affects students' writing skills, particularly in terms of content and structure with a focus on the perspective of EFL teachers.

These two studies are similar in their focus, investigating artificial intelligence-based tools that support students' writing skills and the impact of their use. The difference between the two lies in the tools that are the object of research. The previous study did not only limit the research to ChatGPT but also investigated several other artificial intelligence tolls. Meanwhile, this study specifically analyzes the use of ChatGPT. Another difference is related to the research participants. The previous study involved teachers as a participant, while this study included English language students as research subjects.

The third study is from (Ali et al., 2023) that discusses the impact of ChatGPT on English language learning in general. Based on her research, the findings show that in general ChatGPT can motivate students to develop reading and writing skills. The attitudes given by the respondents regarding the effect of ChatGPT in developing listening and speaking skills tended to be neutral. So

based on this finding indicates that the use of ChatGPT in the teaching process has motivating properties. Therefore, it is recommended that ChatGPT should be used as a learning tool without fear of negative impact, but this requires further investigation.

Although this study has similarities with previous studies in the use of chatGPT as the object of research, there are some differences. First, the previous study focused more on the motivation arising from the use of ChatGPT in learning. Second, the previous study investigated the use of ChatGPT in all four skills, whereas this study only focuses on its use in the context of writing skills. Third, the difference lies in the research subjects; while the previous study involved both teachers and students as subjects, this study only focuses on students' participation.

The fourth study is from (Mohammadkarimi, 2023). The purpose of this study is to explore teachers' perspectives on academic dishonesty in the written assignments of students using English as a foreign language (EFL) within the artificial intelligence (AI) framework. The research also underscores the significant role of teachers in recognizing tasks generated by AI and highlights the necessity of addressing ethical consequences to assist educators in identifying and avoiding negative outcomes associated with AI use.

The similarity between this research and the previous research lies in the focus of the research which both explore the use of artificial intelligence (AI) to support students in writing in English. However, the main difference between this research and the previous research is that this research is more specific,

focusing on ChatGPT as one of the AI products. The participants in this study were limited to students and college students, not involving the role of teachers. Thus, the perceptions analyzed only came from students and did not include teachers' views.

The fifth study is from Limna et al., (2023). This study investigated the responses of educators and students to the utilization of ChatGPT in an educational context. The research methodology used was a qualitative approach, involving in-depth interviews as the data collection method. The results showed that the responses from educators and students to the use of ChatGPT in education were generally positive. Although they gave positive comments, they were also concerned about the accuracy of the information provided by ChatGPT.

The similarity between this study and the previous study lies in the focus of the analysis which considers students' perceptions of the use of ChatGPT. However, the difference lies in the approach of this study which only considers students' perceptions without involving teachers' perceptions. In addition, the previous study covers the use of ChatGPT in the general educational context, while this study focuses the analysis on the use of ChatGPT in students' writing skills.