



CHAPTER II

REVIEW OF RELATED LITERATURE

A. Review of Related Teories

1. The concept of Perception

Perception is the cognitive process by which individuals interpret and make sense of sensory information from the environment. According to Kenyon & Sen (2015:1), "Perception is a process where a person selects, organizes, identifies and interprets the sensory information he receives in order to understand his environment." It involves the brain's ability to interpret stimuli through the senses such as sight, hearing, touch, taste, and smell to form an understanding of the world around us. According to the direction of information flow, theories of perception as a process of acquiring of information may be divided into two basic groups. They are the top-down theories of perception and the bottom-up theories of perception.

Demuth (2013: 23) stated that the top-down perception theory is a process that involves knowledge or information that already exists in memory in processing information obtained from the environment to produce perception. While the bottom-up perception theory is the process of taking information from the environment. According to Kesen, et al. (2022: 4610), "The bottom-up branch starts from low-level visual features and applies a sequence of contracting filters that result in successively higher level feature maps with lower spatial resolution." Thus, it can be



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interpreted that bottom-up perception is a psychological theory that explains how people understand the world around them by starting with sensory information and building up to higher-order perceptions.

In this approach, perception is built from the ground up, with the brain organizing the information in a step-by-step manner to form a coherent representation of an object or event. For example, when a person encounters an unfamiliar object, their brain first processes the basic features, such as its shape, texture, and color, before identifying it as a particular item. Unlike top-down perception, where prior experiences, beliefs, and expectations guide interpretation, bottom-up perception is purely driven by the sensory features present in the stimulus itself.

In addition, perception can also be categorized into positive and negative perceptions. As stated by Zahro, Wahab, & Ferdiyanto (2023:56) that positive perception is a personal evaluation of an object based on satisfaction, knowledge, and experience, while negative perception is a personal evaluation influenced by dissatisfaction, ignorance, and lack of experience with unidentified objects. The differences in perception will result in different actions as a result of their thoughts and perspectives.

2. Artificial Intelligence

Nowadays, almost everyone uses the help of technology in every aspect of their lives. One of the technologies is the use of Artificial Intelligence (AI). According to Mahato (2022: 197), "Artificial Intelligence is a study of how human brain think, learn, decide, and work,



when it tries to solve problems.” Furthermore, AI is the basis of various concepts in the field of computer science and technology. Eriana & Zein (2023: 1) stated that AI is a branch of computer science that aims to develop systems and machines that are able to learn from data, recognize patterns, and make intelligent decisions by involving the use of algorithms and mathematical models.

Chan & Hu (2023: 12) in International Journal of Educational Technology in Higher Education stated that students are generally familiar with AI technologies, and their level of familiarity is influenced by factors such as knowledge about AI and frequency of use. The potential benefits and risks associated with using AI in teaching and learning are perceived differently among students based on their experiences with AI.

The history of the emergence of AI began in the 1950s, when scientists and researchers thought about how machines could do their jobs like humans could. According to Khan (2024: 126), “AI, a concept first introduced by American computer scientist John McCarthy during the 1956 Dartmouth Conference, encompasses the study of computational models capable of mimicking human cognitive functions, notably reasoning and behavior.” The conference also defined the main goal of AI, it is to understand and model human thought processes and design machines that can imitate human behavior.

As stated by Wijaya (2013: 21) that the classification of the main scope of AI based on the output provided consists of:

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a. Expert System

Here, computers are used as a means to store expert knowledge.

Thus, computers will have the expertise to solve problems by imitating the expertise possessed by experts.

b. Natural Language Processing.

With this natural language processing, it is expected that users can communicate with computers using everyday language.

c. Speech Recognition.

Through speech recognition, it is expected that humans can communicate with computers using voice.

d. Robotics & Sensory Systems.

e. Computer Vision, trying to be able to interpret images or visible objects through computers.

f. Intelligent Computer-aided Instruction. Computers can be used as tutors who can train and teach.

g. Game Playing.

3. Artificial Intelligence in Education

John Biggs in Chan & Hu (2023:4) emphasized the importance of student perception in his 3P (Presage–Process–Product) model of teaching and learning. Students who perceive the learning environment positively are more likely to adopt a deep approach to learning. In a learning environment, the way students perceive a technological innovation such as AI, their views, concerns, and experiences of the technology can have

impact on their willingness to utilize the tool and consequently the extent to which the tool is integrated in the learning process.

In the context of education, AI has the potential to revolutionize teaching and learning by providing personalized learning experiences and adaptive learning tools. According to Chetry (2024: 6352), “From adaptive learning platforms to data driven insights, AI is revolutionizing education, promising to unlock the full potential of every learner and create a more inclusive and effective educational system for the future.” AI can analyze student data to identify individual strengths and weaknesses from their interactions and adjust learning materials, pace, and teaching style which may improve student understanding and learning outcomes.

Various types of AI applications have been applied in the world of education to improve the teaching and learning process. One of them is the use of chatbot that function as digital assistants for students by providing quick answers to questions related to subject matter. As stated by Haristiani (2019: 1) that chatbot is a computer program or artificial intelligence that converses with users via text or audio and engages them in a certain topic or domain by providing insightful responses in natural language. This type of chatbot gives students the opportunity to learn anytime and anywhere.

In addition, the type of AI in the form of an automated grading system or automated graded tools is also increasingly used in the field of education. This type of AI is able to correct assignments or exams quickly



and accurately, and it is able to provide real-time feedback on errors that need to be corrected. As stated by Messer, et al. (2023: 2) that Automated Grading Tools (AAT) can be used to completely automate the grading and feedback process or to indicate potential issues while manually assessing the submissions.

Although AI has great potential to improve the learning process and education management, unstable internet connections in some areas are a significant obstacle. Goldenthal et al., (2021:2) stated that the basic requirements for AI device adoption are hardware, software, and basic internet access. Different demographic groups also experience gaps in internet and device access. These gaps in device and internet access can themselves be barriers to AI access. In many areas, especially in rural or remote areas, internet access is still limited or has low speeds, which makes the use of AI-based learning platforms less effective or even inaccessible at all.

4. Artificial Intelligence in Writing English Essays

Writing English essays refers to students' ability to compose essays in English, which involves the application of language skills such as organizing ideas, developing arguments, and using proper grammar. According to Imastuti, Sujoko, & Suparno (2014: 30), "Writing ability is capacity of someone to produce written message from words, into sentences, into text, into coherence whole where the readers can understand the meaning." AI in English essay writing has become a very



useful tool to help writers improve the quality of their writing. As stated by Jen & Salam (2024: 92) that AI can be a tool that can help gather necessary information such as writing structure, relevant sources, new insights about the topic and also provide feedback to writers. AI simplifies the writing process by providing automatic suggestions and corrections, so students can complete their English essays faster.

Some examples of AI commonly used by students when writing their English essays are ChatGPT, AI Writer, and Claud AI. They are AI based chatbots that can interact with users through text-based conversations. According to Deng & Lin (2022: 82), “ChatGPT can help increase efficiency by automating conversations. This can save time and resources, as it eliminates the need for manual conversations. Additionally, ChatGPT can generate responses quickly, allowing for faster conversations.” In the context of writing English essays, students can use ChatGPT, AI Writer, and Claud AI to answer questions directly, provide additional explanations, or even rephrase an explanation about something.

In addition, there are also other AI tools, they are Grammarly and Quillbot. It is an AI tools that offer real-time grammar and spelling correction, style suggestions, punctuation correction, synonyms, and clarity enhancement that can potentially help students improve their grammar skills and writing proficiency. According to Fitria (2021: 66) both Grammarly and Quillbot can be used to detect grammatical errors, spelling errors, incorrect sentence construction, summarize long sentences,



and check for plagiarism. This can be a good tool because it allows students to improve their writing when writing English essays.

On the other hand, there are several disadvantages of using AI in writing English essays, consisting of issues of plagiarism and information accuracy. Warschauer et al in Chan & Hu (2023:3) stated that there have been challenges about the limitations of AI and issues related to ethics, plagiarism, and academic integrity. For second language learners, constructing appropriate prompts poses a challenge in itself as it requires a certain level of linguistic skills and overreliance on AI tools may compromise students' genuine efforts to develop writing competence.

The use of AI in English essay writing can increase the risk of plagiarism, especially since these tools allow students to easily copy or modify the work of others without giving proper credit to the original source. According to Jen & Salam (2024: 92), "There are cases of students copying the essays from AI tools mainly ChatGPT as it can provide personalized answers based on the students' manuscripts." Furthermore, as stated by Rizkika (2024: 32) that while AI can make work faster and easier, it also makes it easier for more plagiarism which is difficult to detect.

In addition, Harrer in Chan & Hu (2023:3) stated that the content produced by AI may be biased, inaccurate, or harmful if the dataset on which a model was trained contains such elements. AI tools are not able to assess validity of content and determine whether the output they generate



contains falsehoods or misinformation, thus their use requires human oversight. Furthermore, since AI-generated output cannot be detected by most plagiarism checkers, it is difficult to determine whether a given piece of writing is the author's original work. However, AI can complicate this process by providing irrelevant or inaccurate information, as it may not always ensure the quality and context of the data. As stated by Rahayu (2023: 2136) that the use of AI requires high validity and reliability to produce consistent and objective results, although there are still challenges because AI is not yet fully able to imitate and adapt to human intelligence.

B. Review of Related Findings

Based on the sources related to this study, there are several previous kinds of research related to this research topic. The first previous research was "*Students' Perception of Artificial Intelligence as English Learning Tools at Sriwijaya University*" by Rizkika (2024: 17-34). The research aimed to explore 6th semester students' perceptions of using AI as an English learning tool, focusing on 67 students from the English Education Study Program at Sriwijaya University. Data was collected using a questionnaire and analyzed with a Likert scale. The findings showed that most students had a positive attitude towards AI. In this research, the researcher uses the same dependent and independent variables, they are perception and AI variables, but differ in the context variable where the current study uses the English essay writing variable.



Then, the current study and previous studies both use questionnaires as their instruments.

The second previous research was “*Students’ Perception on the Use of AI in English Language Learning*” by Arifatin & Setyaningrum (2024: 478-485). This research investigated students' perceptions of AI integration in English language learning using a qualitative approach. The research involved 20 students from various programs at the Faculty of Economic and Business, Universitas Muhammadiyah Lamongan. The findings revealed a generally positive attitude toward AI, with participants recognizing benefits such as personalized learning, instant feedback, and improved practice opportunities, which help identify errors, accelerate learning, and enhance critical thinking.

The third previous research was “*EFL Students’ Attitude on The Use of Artificial Intelligence (AI) in Academic Writing*” by Aisyi (2023: 21-36). This research explored EFL students' attitudes toward using Artificial Intelligence in academic writing, employing a qualitative approach with semi-structured interviews. The findings showed a generally positive attitude, highlighting six key benefits of AI: improving grammar, sentence construction, paraphrasing, vocabulary, topic selection, and time efficiency. However, some students faced challenges such as laziness, dependency, lack of creativity, and concerns about plagiarism when using AI.



The last previous research was “*Artificial Intelligence-Assisted Writing Application for Improving Writing Skills of Islamic Education Students*” by Fauziah & Minarti (2023: 120-123). This qualitative research explored the use of AI-assisted writing applications to enhance academic writing skills in EFL students. Data were collected through writing task analysis and interviews. The findings revealed that AI-assisted applications are beneficial for students, helping them construct paragraphs, correct structures, and paraphrase effectively.

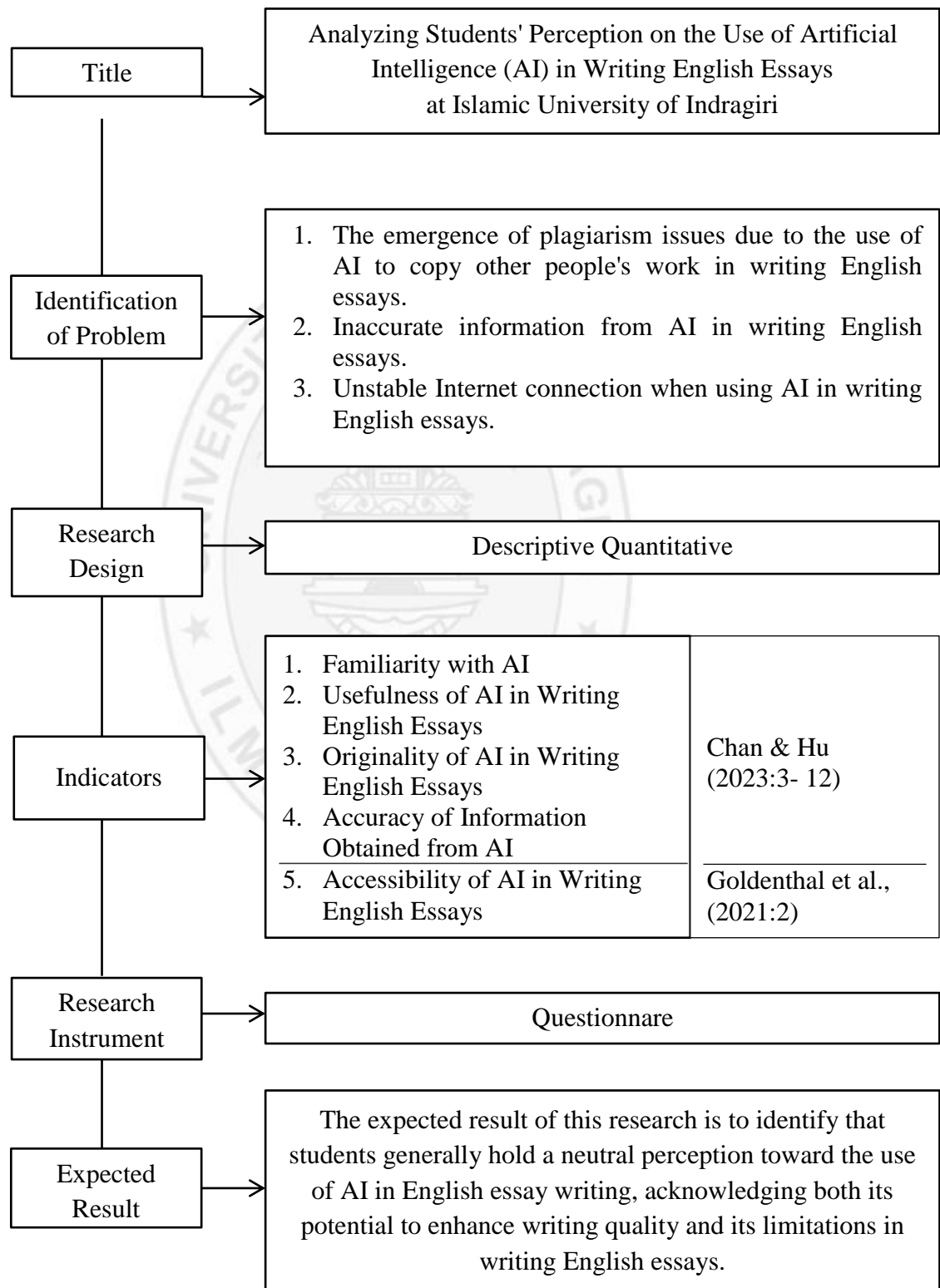
Several previous studies have discussed students' perceptions of Artificial Intelligence (AI) in English learning and academic writing. These studies generally found positive perceptions of AI, highlighting its usefulness in improving grammar, vocabulary, and writing efficiency. However, these earlier studies did not specifically focus on essay writing, which requires not only language skills but also the ability to develop and organize ideas clearly.

Therefore, this study aims to analyzing students' perceptions of AI more specifically in the context of English essay writing by using five structured indicators based on the 3P Model theory (Chan & Hu, 2023) and AI-mediated communication tools (Goldenthal et al., 2021). Through this approach, the researcher hopes to provide a more focused and theory-based understanding of how students perceive AI in their essay writing process.



C. Conceptual Framework

The conceptual framework of this research is figure as follow:





From the conceptual framework that has drawn above, the researcher focus on the perceptions from 4th, 6th, and 8th semester students regarding the use of Artificial Intelligence (AI) in Writing English Essays at Islamic University of Indragiri. There are several problems identified in this research:

1. The emergence of plagiarism issues due to the use of AI to copy other people's work in writing English essays.
2. Inaccurate information from AI in writing English essays.
3. Unstable Internet connection when using AI in writing English essays.

In this research, the researcher used a descriptive quantitative research design to explain the result of the research data. There are five indicators in this study, indicators 1 to 4 are based on the 3P Model theory by Biggs as explained in Chan & Hu (2023: 3-12), while the 5th indicator refers to the theory of AI-mediated communication tools as explained by Goldenthal et al (2021: 2)

The researcher used questionnaire as research instruments. The expected result of this research is to identify that students generally hold a neutral perception toward the use of AI in English essay writing, acknowledging both its potential to enhance writing quality and its limitations in writing English essays.