

CHAPTER II

LITERATURE REVIEW

A. Theoretical Framework

1. The concept of AI (Artificial Intelligence)

Artificial Intelligence (AI) is the process of creating machines that think and act like humans. In simple terms, AI is about teaching machines to learn independently from data and information given to them (Sumakul et al., 2022). According to Gafar (2024), Artificial Intelligence (AI) is human-made intelligence that can make complicated problems easy in a short time. The impact of AI technology is becoming increasingly apparent in various sectors, particularly in education. Its integration has performed the educational curriculum, especially in language learning. Artificial intelligence is thought to enhance individuals' learning process to reach their academic objectives more effectively.

Many researchers have highlighted the significance of incorporating AI systems into learning environments (Luckin & Holmes, 2016). According to Kukulska-Hulme and Lee (2020), AI applications greatly impact student learning and integrate technology appropriately to increase student motivation and independence. Alamer (2022) said that mobile devices give students autonomy and freedom to expand the time, place, and pace at which

they can study independently. Artificial Intelligence (AI) is designed to mimic intellectual abilities, identify patterns, and complete complex tasks quickly and efficiently.

Artificial Intelligence (AI) in automated writing assessment is a technology that mimics the human mind and is an advanced system developed to analyze, assess, and evaluate consistently. In language learning, AI is essential in creating Automatic Writing Evaluation (AWE), which allows writing assessment to be done automatically. Jiang et al. (2020) state that current AWEs provide a final grade and offer immediate feedback, such as correcting grammar and recognizing frequent error patterns. Therefore, AI in the academic field will be very helpful because it is simple and easy to learn.

2. GRAMMARLY

a. The Grammarly Application

Grammarly is one of the most popular grammar-checking apps. Grammarly was founded by Max Lytvyn and Alex Shevchenko in 2009. According to Ghufron (2019), Grammarly is one of the automated feedback programs that can be implemented in writing classes. The Grammarly online proofreading website can be used to reduce vocabulary, grammar, and mechanics errors. It automatically identifies errors such as grammar mistakes, word

choice, spelling mistakes, and punctuation mistakes (Sulistiyowati, 2021).

Grammarly's user-friendly and real-time feedback mechanism makes it a convenient and accessible resource for students. Its ability to provide corrections and explanations so that students can address grammar issues quickly is crucial for language learning. Instant feedback helps students learn from their mistakes, understand grammar rules well, and apply this knowledge to writing assignments.

Pratama (2021) said the versions of this software used to check writing errors are:

a. Free version

Grammarly has some limitations, but it still serves as a good resource for users. Especially writers who want to correct common errors in their writing. This app focuses on fundamental aspects of correctness, including spelling, grammar, and punctuation checks (Dewi, 2022). This tool effectively identifies minor grammatical errors, such as misplaced articles. For students, this tool is especially useful for reviewing documents of up to 500 words. When a typing error occurs, Grammarly immediately highlights it in red and suggests appropriate fixes. Additionally, users can set writing goals. This feature increases

effectiveness for those who want to improve the accuracy and impact of their writing.

b. The challenges of using Grammarly

Although Grammarly has become a popular tool among students for improving writing quality, several challenges have been identified regarding its use as an Automated Writing Evaluation (AWE) tool. One of the most common limitations lies in the free version, which only offers basic corrections such as spelling, punctuation, and grammar. According to Dewi (2022), this version does not provide advanced suggestions related to sentence clarity, structure, or vocabulary enhancement, making it less effective for deeper writing development.

Another significant challenge is the inaccuracy of feedback. While Grammarly offers instant suggestions, some students report that the corrections can be misleading or contextually inappropriate. Ummah and Bisriyah (2022) said that Grammarly alters the intended meaning of a sentence rather than improving it. Additionally, the tool's lack of contextual understanding means it cannot fully grasp the nuances of students' writing or provide guidance that takes rhetorical or cultural aspects into account. According to Fahmi and Cahyono (2021), Grammarly cannot fully replace human feedback, particularly in situations that require a deeper interpretation of meaning or intent.

Moreover, students may experience frustration when Grammarly fails to detect all grammatical issues or when its suggestions are unclear. This sometimes leads to reduced trust in the tool or even over-reliance, where students depend on the application without critically evaluating the feedback. Another notable limitation is the language barrier.

3. The Nature of Writing Evaluation

Writing evaluation is a critical component of educational assessment, aimed at measuring students' writing abilities and providing feedback for improvement. With the advent of technology, various methods and tools have emerged to facilitate writing evaluation, including an automated writing evaluation (AWE) system, peer review, and traditional assessment methods. Automated writing evaluation refers to computer technology's ability to assess and score written text. These systems were initially designed with primary objectives: to reduce the time and effort required for human evaluators to assess tests and to develop scoring mechanisms that eliminate human error. Advancements in technology have enabled the AWE system to evolve beyond simple scoring, offering students interactive, detailed feedback on their writing (Jiang et al., 2020). To automatically evaluate aspects such as content, structure, and writing quality, AWE systems utilize a component known as automated essay scoring.

4. Perception

a. The Nature of Perception

Perception is the process by which individuals select, organize, and interpret information to form a meaningful understanding of their environment. This process involves selecting relevant details, organizing them in a structured way, and interpreting them to create a view of the world (Apriani et al., 2019). Perception is described as the way individuals give meaning to their environment.

Perception is how people interpret and understand information from their environment. This requires evaluating concepts acquired through learning to assess one's position on things, which can involve agreement, disagreement, or nuanced understanding (Jaelani & Rahmah, 2019). Each learner develops a unique perspective based on their educational experiences, which influences their approach to learning.

These viewpoints, known as student perceptions, reflect how students interpret events inside and outside the classroom. Such perceptions often inspire discussions or suggestions that can benefit teachers and their peers in improving the educational process. Moreover, these insights contribute to a deeper understanding of the factors influencing student perspectives, including personal beliefs, cultural background, and previous experiences.

b. Factors that influence Perception

According to Bimo Walgito (2004), the following are the factors that play a role in Perception: factors can be stated, namely :

- 1) Perceived Object. Objects can cause a stimulus that hits the sensory organs. The stimulus can come from outside the perceiving nerve that works as a receptor. However, most of the stimulus comes from outside the individual.
- 2) Sensory Organs, Nerves, and Nerve Centres. Sensory organs or receptors are tools that receive stimuli. Therefore, sensory nerves must exist to forward the stimulus received by the receptor to the center of the nervous system, namely the brain, as the center of consciousness for the response tool, motor nerves are needed.
- 3) Attention. Attention is needed to hold. Perception is the first step in preparation. From this, it is stated that to make Perception are several factors that play a role, which are conditions for perceptions to occur, namely, (1) The object or stimulus being perceived; (2) Sensory organs and nerves and nerve centers, which are physiological conditions; (3) attention, which is a psychological condition.

5. Previous Study

Relating to this Research, here are some previous studies on Grammarly AI as an automated writing evaluation tool:

The first relevant study, which was conducted by Fahmi and Cahyono (2021), was titled “*EFL students’ perception on the use of Grammarly and teacher feedback.*” Their study examined the students' use of Grammarly and teacher feedback on their writing. It also sought to know whether the students' English proficiency level influences their Perception. Participants included 26 Faculty of Law undergraduate students taking an English for Specific Purpose (ESP) writing course when the data were collected. Another study conducted by Lesty and Assidik (2025) with the title “Effectiveness of Grammarly as a tool for learning writing skills for students” explores the effectiveness of Grammarly, as an Automatic Writing Evaluation (AWE) tool, among Malaysian university students studying English as a second language (ESL). A questionnaire distributed to 100 FEB, FIK, Pharmacy, Engineering, Psychology, and Law undergraduate students showed that 98% believed that Grammarly could improve their writing skills, and 97% supported its use in ESL classes. The study used a mixed methods approach combining quantitative data from questionnaires and interviews to gain comprehensive insights.

Based on the two previously mentioned, the main difference with this study lies in the research methods. The previous studies used group

discussion and interviews focusing on experiences and opinions, and combined Automated Writing Evaluation (AWE) with teacher feedback. In contrast, this study used a quantitative method with a questionnaire instrument to uncover the perspective of English Education students who use Grammarly as a writing tool. This study questionnaire was used to determine the students' perspectives on using Grammarly in their writing. Previous studies did not focus on the Perception of English students who use Grammarly in writing. Therefore, this study fills the gap by investigating students' perceptions of using it as an evaluation tool.

