

CHAPTER 2

LITERATURE REVIEW

This chapter presents related and relevant research studies. It also includes a theoretical framework to help make this research more understandable.

A. Theoretical Framework

1. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed by Davis (1989) as an extension of the Theory of Reasoned Action (TRA). This model tries to present the reasons why users accept and use technology (Chuttur, 2009). TAM is based on users' beliefs, attitudes, and behaviors towards technology, including the perception that technology is useful and easy to use. In general, TAM is a model for predicting user acceptance of various technologies or tools such as QuillBot used for writing scientific papers.

In this study, TAM is adopted as a theoretical model to investigate EFL learners' attitudes towards the usefulness and ease of use of QuillBot as a paraphrasing tool that can help them avoid plagiarism in their writing. The model suggests that there are two determinants of technology acceptance: perceived usefulness (PU) and perceived ease of use (PEOU).

PU refers to the extent to which a person believes that using a particular system will improve his or her job performance (Davis, 1989). The basis of this idea is that technology is only “useful” if it offers practical benefits. In organizations, people are often motivated to perform better because of incentives such as salary increases, promotions, or bonuses (Pfeffer, 1982). Thus, a useful system is one that has a positive correlation with productivity.

Meanwhile, perceived ease of use (PEOU) is the level of individual confidence that the use of the system is free from effort. This definition assumes that “easy” is the same as not burdensome. Radner and Rothschild (1975) note that effort is a scarce resource that must be divided between sorting and searching tasks. Thus, technology that is easy to use will be more easily adopted by users.

Davis (1989) also states that the effects of PU and PEOU are always directly represented in users' attitudes. Furthermore, they shape their behavioral intention to use the technology, which in turn shapes their technology adoption behavior. In short, TAM emphasizes the role of user perception; thus, technologies that are perceived as useful and easy to use will be adopted. In addition, TAM has been used in various disciplines, so TAM can also be a useful theoretical model to explain technology acceptance. In this study, TAM was adopted to investigate how EFL students perceive a tool called QuillBot when performing paraphrasing in academic writing (including plagiarism). PU is the extent to which QuillBot is believed to help students' produce high-quality writing free from plagiarism, while PEOU is the belief that QuillBot can be used at no cost. TAM is considered suitable for students' perceptions because this model was developed with the aim of understanding the use and acceptance of technology. Based on this system, the findings from this study will be able to show how students' perceptions of QuillBot being easy to use and useful can influence the utilization of QuillBot in academic writing. Furthermore, the findings of this study are expected to promote a better understanding of technology as a means to better writing while improving students' ethical adherence to academic practices.

2. Cognitive Load Theory

Cognitive Load Theory, originally proposed by John Sweller in the 1980s, is concerned with identifying the impact of human working memory as a filter in perceiving and processing new information. According to Sweller (1994), cognitive load refers to learning/performance and problem-solving difficulties caused by information presented beyond the capacity of working memory. This theoretical teaching strategy also seeks to reduce irrelevant cognitive load to make it easier for students to understand the material being studied (Mukti, 2017).

According to Lesmana et al. human working memory is limited, having a capacity limit to process a lot of information at once (Lesmana et al., 2020). This can result in an inability to learn new information or perform work that involves processing information. This is where technology, such as QuillBot, which acts as a paraphrase, can help alleviate some of this cognitive burden. Students can

concentrate on the substance and not the instinct to write when the need to rewrite is reduced, students are free to think about the substance and their psychological energy is not devoted to the work of composing.

Cognitive load is a term used by Paas (1994) to describe the situation that occurs when working memory capacity is exceeded by the need to accommodate and process incoming data. By helping students organize and understand information more quickly, QuillBot can help reduce cognitive load in writing. Cognitive load theory states that learning is impeded when individuals exceed their working memory capacity, resulting in impaired comprehension and retention.

Given the background of the current study, students in CDA courses may benefit from using QuillBot to generate detailed task breakdowns more quickly, reduce cognitive load, and sort research articles more effectively. This is especially true given the quality (or lack thereof) of academic projects that students often submit when they are overwhelmed by the sheer amount of information they are expected to process. QuillBot allows students to spend their time wisely, improve the quality of their academic writing, and increase topic retention rates. QuillBot will also encourage stronger cognitive schemas-information that is stored in long-term memory. Thus, platforms like QuillBot not only reduce cognitive load, but also improve the academic standard of student-generated writing.

3. Constructivism Learning Theory

Constructivism learning theory is a learning approach that emphasizes that knowledge is actively formed by individuals through experience and interaction with their environment (Piaget, 1973). In this framework, students are not positioned as passive recipients of information, but as active subjects who build understanding based on learning experiences experienced directly or through social interaction.

There are two main approaches in constructivism learning theory, namely cognitive constructivism and social constructivism. Cognitive constructivism developed by Piaget emphasizes the internal process of individuals in constructing knowledge through assimilation and accommodation mechanisms (Piaget, 1973). Meanwhile, social constructivism pioneered by Vygotsky emphasizes the

importance of social context and interaction with others in the learning process (Vygotsky, 1978). The concept of Zone of Proximal Development (ZPD) and scaffolding developed by Vygotsky suggests that assistance from the external environment, such as teachers or learning media, can facilitate students' cognitive development (Bruner, 1985).

In the context of learning English as a foreign language (EFL), particularly in academic writing, constructivist learning theories are relevant to understand how students develop their writing skills actively and independently. Academic writing is a complex process that requires cognitive engagement, critical thinking skills, and an understanding of academic language structures (Hyland, 2020). Therefore, the use of digital tools such as QuillBot can be seen not only as a technical tool, but also as part of a learning environment that supports knowledge construction.

QuillBot, as an artificial intelligence-based paraphrasing tool, allows students to explore various alternative sentence structures, synonyms, and ways of conveying ideas. Through this process, students engage in reflective activities that are in line with the principles of constructivism, where they not only accept the paraphrase results directly, but also consider the appropriateness of meaning, clarity, and accuracy of language in an academic context.

Furthermore, the use of QuillBot also supports the concept of self-regulated learning, where students manage their learning strategies independently, including evaluating, revising, and improving the quality of their academic writing (Zimmerman, 2002). This reflects the active role of students as independent learners who construct their knowledge through the process of rethinking, decision-making, and reflection on the text produced.

As such, constructivist learning theory provides a strong conceptual framework in explaining how the use of QuillBot in academic writing can encourage students' cognitive engagement, strengthen reflective skills, and form a deeper understanding of academic language use. The technology serves not only as a technical tool, but also as a learning partner that supports the knowledge construction process in a higher education context.

Therefore, the descriptive development theory of open discussion with others plays a role in the application of QuillBot in academic writing and helps to cognitively engage students, encourage reflective thinking, and help form deep understanding in the use of academic language. In this sense, technology is not simply a remote trigger, or a technical instrument, but a learning partner that aids knowledge building during higher education studies.

4. EFL Students' Perceptions

EFL (English as a Foreign Language) refers to a situation where someone learns English as a foreign language, not as a first or second language. Harmer (2007) explains that EFL is a condition where learners learn English to communicate with native speakers around the world. Si (2019) adds that EFL is generally used by non-native speakers, such as Chinese people who learn English in their country. Study by Rosyada and Sundari (2021) also identified that students in non-native English speaking countries, such as Indonesia, learn English as a foreign language for academic and professional purposes. From this context, EL is studied with the aim of facilitating international communication and improving students' academic skills, such as scientific writing skills in particular.

Perception is very important in language teaching and learning, especially in the case of EFL learners. Perception is what one thinks and feels based on what they have seen; it is what happens when you take the raw data of an experience and shape it with your mind. Kumar (2010) in Sibarani (2019) perceived is the process of gaining awareness or understanding of sensory information including the philosophical, psychological, and cognitive aspects of the process. We also see that perception is an event generated through physical stimuli that shows how a person reacts to their environment.

In L2 learning (e.g., editing, translating), EFL students' attitudes towards the use of technology support, such as QuillBot, can influence how the tool is applied in academic writing. For example, a high/low rating of QuillBot's ability to repeat/avoid plagiarism depends largely on its perceived quality. This concept includes students' knowledge of the advantages and disadvantages, as well as ethical aspects, of utilizing technology in an educational setting.

Thus, EFL students' perceptions can be defined as the mental and emotional responses that are consciously experienced by learners of English as a foreign language in facing the learning experience. In this study, EFL students' perceptions refer to the views of EFL students in the Critical Discourse Analysis (CDA) class regarding the use of paraphrasing tools like QuillBot in academic writing (specifically in writing research articles). The purpose of this study is explore EFL students' perceptions of the usefulness and ease of use of the QuillBot paraphrasing tool in avoiding plagiarism of their academic writing.

5. Paraphrasing

Paraphrasing is the act of rewriting sentences or information from a source to create new sentences but without losing the original meaning of the source to prevent plagiarism and improve the quality of academic writing. Fitria (2021) defines paraphrasing as the process of conveying a report to readers in a text other than the source as long as the meaning is maintained. Then, Dewi et al. (2024) argue that paraphrasing is the main way to use other people's words and ideas in your own work/words indicating that, in paraphrasing, the quoted words and ideas of others are conveyed in your words showing their original meaning and not just some aspects of them. Furthermore, Andriani et al. (2024) paraphrasing consists of paraphrasing the information of the source sentence into another structure without changing the meaning of the original sentence. So, based on the three definitions, paraphrasing can be defined as a more refined definition, namely; translating something (it can be thoughts, ideas, or information) back into another language, using different language, but still maintaining the original meaning.

Paraphrasing is one of the important techniques used in academic writing to avoid plagiarism. According to Dewi et al. (2024), paraphrasing is a writing skill that can prevent plagiarism. Fitria (2022) also stated that in paraphrasing, terms need to be changed in order to achieve the goal. That's why paraphrasing is so important in writing, as it helps you avoid plagiarism. Paraphrasing is a difficult skill because it involves other skills. Although useful in learning a language, paraphrasing involves different skills and this makes it difficult for EFL learners

(Thadphoothon, 2019). One of the most serious problems reported by Thadphoothon (2019) is limited word knowledge. Ismail et al. (2020) reported that students face challenges in identifying appropriate alternatives. Sari et al. (2022) stated that without English skills and dictionaries, freedom from plagiarism is reduced by paraphrasing. They claimed that knowledge of English, especially vocabulary, is essential for paraphrasing. Pratama and Prawesti (2022) highlighted that students' limitations in paraphrasing are due to inadequate vocabulary and the application of their own language. Low vocabulary knowledge affects students' understanding of academic reading materials.

From this study, it was concluded that vocabulary acquisition is one of the biggest problems faced by students in paraphrasing. Other problems are syntax and sentence construction (Thadphoothon, 2019). Ismail et al. (2020) further argue that students are often overwhelmed when rebuilding sentences with new structures. Ovilia et al. (2022) concluded that students often face problems when writing sentences with correct grammatical structures, as grammar is an important issue in paraphrasing.

When viewed from the perspective of EFL students, another difficulty, as claimed by Thadphoothon (2019), is understanding the source text, word choice, and overall meaning. Pratama and Prawesti (2022) argue that narrow vocabulary is related to comprehension and word choice. Basmai and Trisno (2022) highlighted that a good command of vocabulary is essential for understanding the text being read. According to my previous research, paraphrasing problems among EFL students are related to vocabulary, syntax, tense and grammar.

6. QuillBot Paraphrasing Tool

QuillBot is a web-based paraphrasing tool that can automatically paraphrase sentences. According to Fitria (2021), QuillBot is an online tool that helps users paraphrase, prevent plagiarism, summarize long sentences, and correct grammar to be more accurate and professional. Kurniati and Fithriani (2022) also stated that QuillBot is one of the most widely used paraphrasing tools. So, QuillBot is an automatic tool that functions to paraphrase sentences.

Students have various reasons for using QuillBot as a paraphrasing tool, one of which is because of the benefits it offers. Fitria (2021) stated that QuillBot has two versions: free and premium. The free version offers fast and efficient paraphrasing for English texts, while the premium version offers additional features such as increasing the character limit to 10,000, access to all paraphrasing modes, high-level synonym options, faster paraphrasing speed, distinguishing mode, freeze mode to prevent certain words/phrases from changing, and paraphrasing results that match the original length (Andriani et al., 2024). In addition, Fitria (2022) added that QuillBot can automatically delete, add, and change paraphrased words, produce unique and quality content, and is able to work at the sentence and paragraph levels thanks to its built-in AI technology.

Kurniati and Fithriani (2022) added that QuillBot not only improves students' positive attitudes towards writing but also provides easy-to-use writing tools and helps improve students' language skills. Based on various studies, QuillBot is an automatic paraphrasing tool that has features that make paraphrasing easier and more efficient, and has a positive impact on students' paraphrasing skills.

7. Academic Writing

Academic writing is a form of writing skill often used in academic circles. Geyte (2013) explains that academic writing is intended for academics or students for various academic purposes. Darmalaksana (2017) adds that academic writing is a requirement at almost all levels of higher education, especially for postgraduate students, who are required to publish scientific papers in well-known international journals as a graduation requirement. In the context of this study, the focus is on higher education in Indonesia. Kurniati and Fithriani (2022) note that academic writing is an integral part of the higher education curriculum in Indonesia. Based on this definition, academic writing is a crucial element in the academic context.

Academic writing serves various purposes. Bailey (2018) states that these purposes include summarizing other people's study, answering questions posed or chosen by the author, discussing topics of interest, and conveying the author's point of view. These goals are achieved through various academic writing products. Geyte (2013) explains that academic writing products can take the form of journals,

articles, textbooks, dissertations, group project reports, and others. Although diverse, all these products share the same objective.

In academic writing, several components must be followed by the writer to ensure that their writing meets its intended goals. Tardy (2010) identifies important components such as study, paraphrasing, citation, adherence to genre norms, and the use of formal word choice and grammar. These components are essential in academic writing and play a significant role in achieving the desired results. This challenge becomes even greater for EFL students. Aldabbus and Almansouri (2022) state that the most significant difficulties for students include selecting the appropriate academic terminology, organizing their thoughts, and creating cohesive paragraphs. Mustafa et al. (2022) add that other challenges include limited vocabulary, reliance on simple grammar, spelling errors, and difficulty in understanding and paraphrasing complex sentences. Thus, the challenges in academic writing are diverse and substantial.

Particularly in EFL contexts, it is even more difficult to understand the components of academic writing. Wang (2017) revealed that a useful pedagogy increased Chinese learners' attention to coherence issues in academic writing. Partnerships between teachers and students are also needed to address this. Wang (2017) also pointed out that students who scored higher than five in the IELTS writing test were more competent in academic writing; students who were in the early stages of learning English always used grammar aids.

This study draws attention to the importance of collaboration between teachers and students in the context of EFL academic writing. The term academic writing used in this study should mean a research article language assignment written by EFL students at one university, in a CDA (Critical Discourse Analysis) course as their final exam. The quality of academic writing is implicitly assessed only in terms of the criterion of originality, reflected in the low incidence of plagiarism which is one of the main indicators of this study.

B. Study of Relevant Research

There have been many studies conducted on QuillBot. Kurniati and Fithriani (2022) examined graduate students' perceptions of Quillbot as a digital tool in their English academic writing. The analysis revealed that students responded positively to QuillBot when used to improve the quality of their writing. The majority of positive aspects identified by the sample were: increased positive attitude towards writing, easy-to-use characteristics, and language development assistance. Recent research suggests that AI tools such as QuillBot have the potential to facilitate the improvement of students' academic writing quality.

In addition, Saputri (2023) examined students' perspectives and reactions to the advantages and disadvantages of using QuillBot. The benefits we found were: better paraphrasing results, more efficient work, and helping students identify patterns in English sentences. On the other hand, the disadvantages were the reduced ability to do manual paraphrasing, the distraction caused by the device, and students' hesitation in delivering their thesis orally.

A follow-up study by Andriani et al. (2024) examined EFL students' self-efficacy related to the use of QuillBot for academic writing. The findings showed that low self-efficacy in NS EFL students was caused by behavioral, social, and personal reasons. Behavioral predictors were the most important factors as they explained academic writing competence, especially vocabulary and grammar. In addition, this study also highlighted the importance of the social environment in enhancing students' self-efficacy, especially lecturer and peer support. In summary, self-efficacy to use Plan can be enhanced by overcoming behavioral difficulties and developing a supportive social context.