CHAPTER I

INTRODUCTION

This chapter focuses on presenting the research background, research questions, research purposes, research significance, research scope, conceptual framework, and previous studies.

A. Background

The rapid advancement of artificial intelligence (AI) is not only transforming the fields of technology and industry but is also having a profound impact on teaching and learning processes in higher education, particularly in the context of English language education. The development of artificial intelligence (AI) has increasingly influenced teaching and learning practices in higher education, especially in the field of English language education (Baig, 2024). In recent years, artificial intelligence (AI)-based tools have been widely used by students around the world to support various academic activities, particularly academic writing. This trend is also evident in Indonesia, where students are increasingly turning to AI tools to assist with grammar correction, idea development, and text organization.

One of the most frequently used AI tools today is ChatGPT, a generative artificial intelligence application that can generate human-like text, provide feedback, and assist users in generating ideas, rephrasing, and correcting grammatical errors. Recent studies indicate that ChatGPT has been widely adopted by students worldwide and is increasingly used for academic purposes, particularly in writing activities (Dwivedi, Y. K. et al., 2023).

In the context of higher education, academic writing is an important skill that students must master, especially for completing academic assignments, essays, and research papers (Hyland, 2019). Academic writing requires students to demonstrate grammatical accuracy, appropriate academic vocabulary, and well-organized ideas in order to effectively convey their

arguments. However, many students still face difficulties in academic writing, such as grammatical inaccuracies, limited vocabulary use, weak organization of ideas, and a lack of confidence in expressing arguments (Ferris, 2011; Graham, 2019).

At UIN Sunana Gunung Djati Bandung, academic writing skills are developed through the academic writing course, which is offered to fourth-semester students in the English education department. Although they have received guidance in academic writing, many fourth-semester students still struggle to produce satisfactory academic writing. Based on preliminary data collected from fourth-semester students in the English Language Education Department, several common difficulties were identified. Many students reported difficulties with grammatical accuracy, particularly in using the correct verb forms, subject-verb agreement, and sentence structure. Others face challenges in developing and organizing ideas logically, which often results in essays that lack coherence and clear arguments. Additionally, students expressed limitations in their command of academic vocabulary, making it difficult for them to express ideas precisely and formally. A number of students also admitted to a lack of confidence in starting and revising their writing, often feeling uncertain whether their drafts meet academic standards. These difficulties indicate that despite having received formal guidance, students still face significant barriers in producing high-quality academic writing, leading many of them to seek support from AI tools such as ChatGPT.

To overcome these challenges, students are increasingly relying on artificial intelligence (AI)-based tools such as ChatGPT during their writing process. In academic writing courses, check grammatical accuracy, improve vocabulary choices, and generate initial ideas for academic text. Several recent studies report that AI-supported writing tools can help students improve the quality of their writing, facilitate revision, and increase writing efficiency, especially for learners of English as foreign language (Tang et al., 2024; Vieriu et al., 2025).

However, the widespread use of ChatGPT in academic writing has raised concerns among educators and researchers. Although artificial intelligence (AI) tools can offer pedagogical benefits, overreliance on ChatGPT can have a negative impact on student's independent writing skills, critical thinking, and academic integrity (Conell Pensky, 2025). Some experts argue that students may prioritize task completion over learning development, resulting in limited improvement in their actual writing skills.

Therefore, the effectiveness of ChatGPT as a learning tool depends heavily on how it is used and integrated into the learning context. When used appropriately, ChatGPT can help students develop ideas, improve their language accuracy, and structure their writing more effectively. However, inappropriate or excessive reliance on this tool can limit students' critical thinking skills and reduce their active engagement in the writing process. In this regard, the role of teachers and learning design becomes crucial in guiding students to use ChatGPT responsibly and in a pedagogically meaningful way. Consequently, the impact of ChatGPT on students' academic writing cannot be generalized, as it may vary depending on the frequency and manner of its use.

Despite the growing body of literature on AI and academic writing, several critical research gaps remain. The majority of existing studies have predominantly employed qualitative approaches focusing on students' perceptions, attitudes, or ethical concerns (Khalil & Er, 2023; Baig, 2024), while empirical quantitative studies that measure the statistical relationship between AI usage frequency and measurable writing outcomes are scarce. Moreover, among the few quantitative studies available, most have examined surface-level writing features such as grammar and vocabulary (Tang et al., 2024), with limited attention to holistic academic writing performance that integrates content, organization, and critical argumentation. Research conducted in the Indonesian higher education context remains particularly limited, leaving a contextual gap in understanding how AI tools function within the specific linguistic, cultural, and pedagogical environment of

Indonesian EFL classrooms. Furthermore, few studies have specifically targeted fourth-semester English education students who are at a critical transitional stage in developing formal academic writing competencies, and there is a notable absence of studies that utilize objective measures of writing performance such as standardized midterm examination scores, with most research relying on self-reported perceived improvement.

Consequently, the correlational nature of the relationship between ChatGPT usage frequency and academic writing achievement has not been systematically examined through rigorous statistical analysis, leaving the direction and strength of this association empirically unclear. These gaps collectively highlight the urgent need for a quantitative correlational study that rigorously examines the relationship between students' ChatGPT usage frequency and their academic writing performance, as measured through objective assessment scores, within the specific context of Indonesian EFL higher education.

This study measures academic writing performance through students' midterm examination scores, which serve as an indicator of students' writing proficiency at the midpoint of the semester. The midterm scores provide a snapshot of students' ability to apply academic writing conventions, including content development, organization, vocabulary use, and grammatical accuracy, before they receive extensive feedback and instruction in the second half of the semester.

Therefore, this study aims to analyze the correlation between the use of ChatGPT AI by students and their academic writing performance among fourth-semester students of the English education study program at UIN Sunan Gunung Djati Bandung. By analyzing students' academic writing performance based on their UTS scores and their frequency of ChatGPT use, this study aims to provide empirical evidence on whether the use of ChatGPT is related to improved academic writing outcomes. The findings of this study are expected to contribute to the growing discussion on AI-assisted writing in the context of teaching English as a foreign language (EFL) and provide practical insights

for lecturers and institutions regarding the ethical and effective integration of AI tools in academic writing instruction.

B. Research Questions

Based on the research background and the identified problems concerning the integration of Artificial Intelligence in educational settings, this study aims to bridge the gap between technology adoption and academic performance. To provide a clear and focused direction for the investigation, the researcher has formulated the following three research questions:

1. What is the frequency of students' use of AI ChatGPT in academic writing activities among fourth-semester students of the English Education Department?
2. How are the students' midterm scores in the Academic Writing course?
3. What is the correlation between the frequency of students' use of AI ChatGPT and their academic writing performance in the Academic Writing course?

C. Research Purposes

In line with the research background and the problems identified, this study is directed toward achieving specific measurable outcomes. To systematically address the research questions and to fulfill the objectives of this investigation, the purposes of this study are formulated as follows:

1. To identify the frequency of students' use of AI ChatGPT in academic writing activities among fourth-semester students of the English Education Department.
2. To identify the students' midterm scores in the Academic Writing course.
3. To examine whether what is the correlation between the frequency of students' use of AI ChatGPT and their academic writing performance in the Academic Writing course.

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D. Research Significances

Beyond answering the research questions, this study is also designed to generate valuable contributions to the field of English language education. The significances of this research can be seen from two perspectives: theoretical and practical. The detailed contributions are presented below:

a. Theoretically, this study is expected to enrich the existing literature on the use of artificial intelligence (AI) in language learning by providing empirical evidence on the impact of ChatGPT AI on students' academic writing performance. By analyzing students' writing performance before and after using ChatGPT, this study contributes to a deeper understanding of how AI tools influence writing development, particularly in the context of academic writing courses in higher education.
b. Practically, the findings of this study are expected to have meaningful implications for various stakeholders. For students, this study can raise awareness about the proper and effective use of ChatGPT AI as a learning aid, rather than as a substitute for independent writing skills. For lecturers, the results of this study can be used as a reference in designing teaching strategies and classroom policies that integrate AI tools ethically and productively in academic writing courses. In addition, for educational institutions, this study can be used as a basis for developing academic guidelines and regulations regarding the responsible use of AI technology in higher education, especially in writing-intensive courses.

E. Research Scope

This study focuses on examining the use of ChatGPT AI and academic writing performance among fourth-semester students in the English Language Education Department at UIN Sunan Gunung Djati Bandung who are enrolled in the Academic Writing course, thereby situating this research within an academic context and a specific participant group.

The scope of this research focuses on identifying the frequency of students' use of AI ChatGPT in academic writing activities and describing the students' midterm scores in the Academic Writing course. Students' use of AI ChatGPT is measured through a questionnaire that assesses the frequency of usage for academic writing purposes, while academic writing performance is measured based on students' UTS writing scores assessed using an analytical writing rubric covering content, organization, vocabulary, grammar, and academic writing style.

Furthermore, this study is limited to analyzing the correlation between the frequency of students' use of AI ChatGPT and their academic writing performance. This research does not aim to examine causal relationships, students' perceptions, or ethical considerations regarding the use of AI ChatGPT, nor does it compare ChatGPT with other digital writing tools or explore the long-term impact of AI use on students' writing development.

F. Conceptual Framework

Academic writing is the process of communicating original research findings to other scholars while adhering to established academic conventions. This process involves the proper application of structured steps in academic writing (Akkaya et all., 2018). In higher education, academic writing is an essential skill because it reflects students' understanding of the subject matter and their ability to convey knowledge effectively.

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ChatGPT, as an AI-powered writing tool, is increasingly being used by students to support various stages of the writing process. This tool can help generate ideas, improve grammatical accuracy, enrich vocabulary, and organize written content. Within the framework of AI-mediated writing, ChatGPT functions as a digital support tool that facilitates the processes of drafting, revising, and editing. However, its effectiveness depends heavily on how frequently and responsibly students use it.

Based on the explanation in the previous paragraph, the relationship between academic writing and the use of ChatGPT lies in the extent to which the frequency of using this technology correlates with students' midterm scores in academic

writing scores. This study is grounded in recent theories of technology use in education and AI-mediated learning, particularly the Unified Theory of Acceptance and Use of Technology (UTAUT), Self-Regulated Learning (SRL) Theory, and AI-Mediated Writing Theory.

According to UTAUT, students' frequency of using technology is influenced by perceived usefulness and expected performance outcomes (Kasneci et al., 2023). In academic writing contexts, students are more likely to frequently use ChatGPT when they believe it can help improve grammar, vocabulary, organization, and efficiency in writing tasks. Therefore, the frequency of ChatGPT use can be treated as a measurable behavioral variable.

This study is also informed by Self-Regulated Learning Theory, which emphasizes learners' active role in monitoring and improving their learning processes (Panadero, 2017; Tang et al., 2024). Through repeated interaction with ChatGPT for revising and refining texts, students may engage in self-regulated writing practices that contribute to better academic writing performance.

In addition, AI-Mediated Writing Theory views ChatGPT as a digital tool that provides linguistic and structural support during the writing process (Connell & Pensky, 2025). However, the influence of ChatGPT on writing performance varies depending on how frequently and responsibly students use the tool. Based on these theories, this study assumes that students' frequency of AI ChatGPT use is statistically related to their academic writing performance.

Therefore, the relationship between concepts in this study can be formulated as follows:

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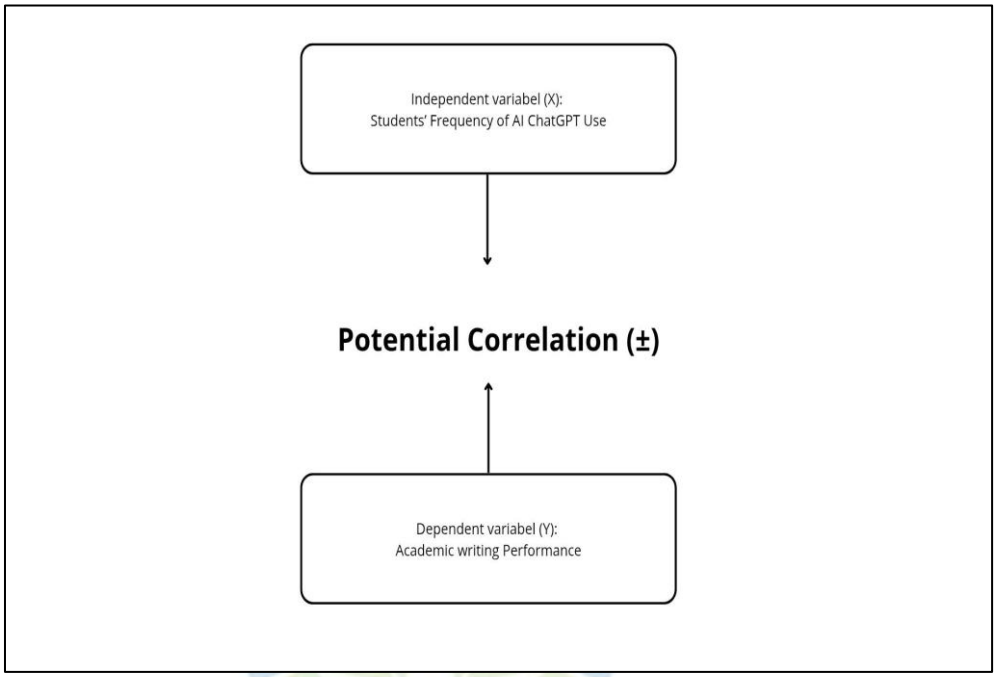

Figure 1. 1 Conceptual Framework

G. Hypothesis

a. Null Hypothesis (H_0)

There is no significant correlation between the frequency of students' use of AI ChatGPT and their midterm scores in the academic writing performance in the Academic Writing course among fourth-semester students of the English Education Department at UIN Sunan Gunung Djati Bandung.

b. Alternative Hypothesis (H_1)

There is a significant correlation between the frequency of students' use of AI ChatGPT and their midterm scores in the academic writing performance in the Academic Writing course among fourth-semester students of the English Education Department at UIN Sunan Gunung Djati Bandung.

Previous study

Recent studies have increasingly examined the use of artificial intelligence (AI), particularly ChatGPT, in the context of academic writing in higher education. These studies provide important insights into how AI

tools affect students' writing performance, learning processes, and academic behavior.

Kasneci et al. (2023) conducted a comprehensive study on the opportunities and challenges of using ChatGPT in an educational context. The results of the study show that ChatGPT can support academic writing by helping students with grammar correction, idea development, and text organization. However, the authors also warn that over-reliance on AI tools can reduce students' critical thinking skills and independence in learning. This study confirms that ChatGPT has great potential, but its use needs to be controlled wisely in an academic context.

Meanwhile, Tang et al. (2024) examined the effect of AI tools on the quality of academic writing and the learning process of students. Using a quantitative approach, the results showed that AI-assisted writing had a positive impact on surface-level writing aspects, such as grammatical accuracy and text coherence. However, higher-level writing skills, such as argument development, did not show significant improvement. These findings indicate that AI tools can support certain aspects of writing performance but cannot replace students' cognitive engagement in the writing process.

Moreover, Baig (2024) examined the integration of ChatGPT in higher education and its pedagogical implications for academic writing. The results of the study show that ChatGPT can serve as an effective support tool in the planning and revision stages of writing, especially for students with low writing skills. However, Baig emphasizes that empirical studies that directly measure student writing performance are still limited, so further quantitative research is needed in this field.

In addition, Khalil and Er (2023) examined students' perceptions and concerns regarding the use of ChatGPT in academic assignments. The findings show that although students consider ChatGPT useful for improving writing efficiency, issues related to academic integrity and excessive dependence often arise. This study emphasizes the importance

of examining whether the use of ChatGPT truly contributes to improving students' academic writing skills.

Furthermore, Connell and Pensky (2025) examined the impact of generative AI on the academic and professional writing productivity of students. The results showed that AI tools contributed to increased clarity and efficiency in writing when used as revision aids. However, meaningful improvements in writing skills only occurred when students actively engaged with the AI's feedback, rather than simply relying on the text generated by the AI.

Finally, Vieriu et al. (2025) examined the relationship between AI use and student learning processes and academic performance. The results showed a positive relationship between responsible AI use and student academic achievement. However, the authors emphasized that the impact of AI on academic performance is highly dependent on the learning context and student characteristics, thus requiring more specific research tailored to the learning context.

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