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Students' Perceptions of Artificial Intelligence in Academic Writing: A Case at A University in Vietnam

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Abstract
Artificial Intelligence (AI) technology is growing rapidly and significantly impacting many fields, notably higher education. This study explores students' perceptions of AI tools in academic writing at Thu Dau Mot University (TDMU). A mixed-methods research design examined Technological Acceptance Model (TAM) factors including Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude towards Behavior (ATT), and Behavioral Intention (BI) with respect to understand importance of usability and perception in user adoption of AI's role in academic writing. The objective was to examine how AI affected the quality and originality of students' writing, and explore the opportunities and challenges they perceived. The sample comprised 212 second-year English-majored students, who demonstrated having the experience of using AI tools in academic writing. A questionnaire and an interview survey were used for data collection. The ten interview informants were randomly picked from the pool of respondents of the questionnaire. SPSS version 20 was used to statistically analyze the data, reliability testing and mean and standard deviation calculations. Findings indicate that Perceived Ease of Use positively affects Perceived Usefulness and Attitude towards Behavior, suggesting that ease of use enhances both the perceived benefits and favorable attitudes toward the system. Additionally, Perceived Usefulness positively influences Attitude, reinforcing that users who find the system helpful tend to develop a positive attitude toward it. These findings highlight the need for educators and policymakers to integrate AI tools in academic writing. Educators must emphasize AI as a support tool, not a replacement for student effort. Future research should examine the long-term impact of AI on students' skills and include lecturers' perspectives and diverse educational contexts.

Keywords: Artificial Intelligence (AI), Academic Writing, Students' Perceptions, Higher Education.

Introduction

The rapid advancement of Artificial Intelligence (AI) has dramatically changed many aspects of education, especially academic writing, which has opened up new opportunities and posed new challenges in teaching

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and learning methods. AI-powered tools, such as ChatGPT, can generate unique and logical content that can evade detection by current technologies and well-trained academic personnel (Perkins, 2023), giving rise to significant problems over academic integrity. Grammarly and Quillbot serve different yet equally influential roles in academic writing. These platforms provide real-time grammar correction, paraphrasing suggestions, and stylistic improvements, thereby supporting students in developing more precise and polished academic texts. Additionally, Wordtune offers multilingual translation features, aiding non-native English speakers in improving their written communication (Nazari, Shabbir, & Setiawan, 2021).

Empirical research has begun to shed light on the positive impact of these tools on students' writing skills. For example, Marghany (2023) found that integrating Grammarly into writing instruction significantly improved the essay writing performance of Egyptian EFL (English as a Foreign Language) students compared to conventional teaching methods. Similarly, Widiati, El Khoiri, Nindya, and Sharif (2023) concluded that using AI writing tools enhanced writing quality among EFL learners. These studies highlight the potential of AI tools to serve as valuable educational resources, particularly for students who struggle with linguistic proficiency or organization in their academic work. In the view of Cotton, Cotton, and Shipway (2024), the increasing integration of AI tools into students' writing routines raises several concerns. A key issue is the potential compromise of academic integrity, as the distinction between assistance and authorship can become unclear when students rely heavily on AI for content generation or editing. This over-reliance on AI may hinder the development of essential independent writing skills and critical thinking abilities. Furthermore, the inability of current detection tools to effectively identify AI-generated content complicates efforts to maintain academic standards and accurately assess student performance (Dwivedi et al., 2023; Perkins, 2023).

The current educational landscape faces a dual challenge: leveraging AI tools to enhance learning outcomes while safeguarding academic integrity and student development principles. Understanding how students perceive and use AI in their writing practices is key to addressing this challenge. Insights into student perceptions can inform educators, policymakers, and curriculum designers about the benefits, limitations, and ethical considerations associated with AI-based writing support tools. These insights are critical in higher education institutions where academic writing is a medium of assessment and a tool for knowledge construction and expression. The rapid integration of AI in academic writing offers benefits but also raises concerns about overreliance, reduced critical thinking, and academic integrity. With limited research on students' perceptions, especially in Vietnamese universities, this study aims to explore how students use and view AI tools to inform ethical, effective integration in academic writing instruction.

This study examines the perception of English-major students at TDMU of AI as a writing assistant, which may feature in their critical thinking and ethical issues within academic integrity. To guide this investigation into students' perceptions of AI in academic writing, the current study is structured around the following research questions: (1) What are the perceived opportunities and challenges of using AI in academic writing? (2) What are students' perceptions of AI tools' roles in academic writing tasks? By addressing these questions, this research aims to provide valuable insights into integrating AI into academic writing while maintaining academic integrity and supporting students' writing development. It is hoped that findings will contribute to discussions on ethical AI usage in education and inform strategies for incorporating AI to enhance, rather than hinder, students' writing development.

Literature Review

Technological Acceptance Model (TAM)

To theoretically support the measurement of students' acceptance of AI in academic writing, the current study draws on the Technology Acceptance Model (TAM) originally developed by Davis (1989), one of the leading scholars in the field of information management. The TAM is a foundational framework for understanding users' acceptance and adoption of emerging technologies, including AI in education. In the context of academic writing, TAM provides valuable insights into how students perceive the usefulness and ease of use of AI-powered tools, which are key predictors of their intention to engage with such technologies. Davis (1989) defined perceived usefulness (PU) as the extent to which users believe technology can improve their productivity, while perceived ease of use (PEOU) is defined as the magnitude of effort needed to engage with technology. This model suggests that PEOU (Perceived Ease of Use) and PU (Perceived Usefulness) play a significant role in user ATT (Attitude towards behavior), which represents an integral part of the original TAM framework. According to Davis (1989), PU and ATT are directly linked to behavioral intention (BI) to utilize technology, significantly impacting actual usage.

Over the past three decades, the TAM has been recognized as an influential model that explicates individuals' acceptance, rejection, and usage of information technologies in information management, digital sociology, education technology, and CALL. More importantly, this model has been proven to be applicable in predicting the adoption of AI. For example, Alhashmi, Salloum, and Mhamdi (2019) used the TAM model to understand the factors influencing AI adoption in the healthcare system in the United Arab Emirates. Similarly, Mohr and Kühl (2021) employed the TAM model, focusing on two PEOU and PU, to examine AI acceptance

among farmers in Germany. Likewise, Maheshwari (2024) shed light on factors influencing students' intention and adoption of ChatGPT by incorporating the constructs, namely PEOU and PU, from the TAM model.

Challenges of AI in Academic Writing

The past three years have seen a notable increase in research focused on integrating technology and AI in language education. Students' awareness of academic dishonesty risks when using AI tools varies, raising concerns about ethical responsibility. While AI tools offer personalized learning support, students' understanding of the academic dishonesty risks posed by these tools remains inconsistent, leading to concerns about ethical responsibility (Kim, Yu, Detrick, & Li, 2025a). Emerging literature has highlighted the ongoing issues of algorithmic bias, transparency, and the ethical implications of AI-generated content. Biases within AI systems often originate from imbalanced or non-representative training datasets, disproportionately affecting marginalized student populations (Sterling, Blaj-Ward, Simpson, & Crawford, 2023). Transparency is also a key concern, as many AI models operate as "black boxes," obscuring how decisions are made and challenging accountability (Zhou, Liu, Wang, Liu, & Wang, 2021). The training data for AI is often flawed, leading to outputs that mirror and reinforce societal prejudices, which is known as algorithmic bias (Bender, Gebru, McMillan-Major, & Shmitchell, 2021). To uphold integrity, institutions must educate students on responsible AI use and reinforce ethical writing practices.

A growing concern is that over-reliance on AI will reduce critical thinking and individual creativity. Studies by Baidoo-Anu and Ansah (2023) and Chiu, Xia, Zhou, Chai, and Cheng (2023) have shown instances where AI tools provided incorrect or inappropriate language suggestions. More concerning, Mujeeb's (2024) study indicated that language learners become less inclined to develop critical thinking and problem-solving skills when they overly depend on AI tools. AI-generated content may not be accurate or guaranteed. Moreover, if students use AI without proper attribution or critical engagement, it can result in plagiarism and undermine the integrity of academic writing. While AI tools can enhance writing, their misuse threatens academic honesty. Bretag (2020) emphasizes that academic integrity requires students to understand the ethical implications of using AI-generated content. Many students recognize that relying on AI for writing assistance without proper attribution can lead to plagiarism violating academic integrity (Morris, 2024). Similarly, a few recent studies (Anani, Nyamekye, & Bafour-Koduah, 2025; Demirel, 2024; Fošner, 2024; Kim et al., 2025a) explored AI tool adoption among university students and found that although students acknowledged the usefulness of AI in improving academic writing, concerns about academic integrity and originality tempered their willingness to rely on such tools. These studies also examined the attitudes and perceptions of students towards AI tools, and their implications for sustainable educational practices in AI-assisted academic writing.

Opportunities of AI in Academic Writing

Several empirical studies have demonstrated that students see significant opportunities in using AI to improve writing quality, gain real-time feedback, and enhance their confidence. Smutny and Schreiberova (2020) applied TAM to social AI-based learning tools. They observed that positive student perceptions of ease of use and usefulness significantly enhanced their willingness to incorporate AI tools into their academic routines. Similarly, Xu et al. (2021) explored the integration of AI-based grammar feedback tools in higher education. They found that students appreciated the immediate, personalized assistance, which positively affected their motivation and learning outcomes. However, simultaneously, humans must combine and come down to write at least what is at higher levels. Language learners require immediate feedback that AI tools like ChatGPT provide (Xiao & Zhi, 2023). This immediate feedback mechanism causes improvement in grammatical, lexical, and overall writing construction (Lingard, 2023; Song & Song, 2023).

Research by Tahir and Tahir (2023) highlights the way AI tools promote learners' autonomy. They enable students to explore language learning independently, outside the traditional classroom setting. Likewise, Nazari et al. (2021) postulates that AI's interactive nature increases student engagement and motivation. Studies like (Veletsianos, Houlden, & Johnson, 2024; Vincent, 2022) highlight the importance of regulatory and institutional policies in academia. Universities play a crucial role in establishing ethical guidelines for AI use, ensuring students engage with AI responsibly. Clear policies help maintain academic integrity while allowing students to benefit from AI's capabilities in a controlled manner. Lee, Davis, and Lee (2024) discuss how AI and human writers can co-evolve to optimize academic writing outcomes. The study's results indicate that these AI-based writing tools could improve English language learners' (ELLs) writing skills. ELLs also note the strengths and weaknesses of each AI-based tool, including the accessibility of translation machine learning and the error-checking capabilities of generative AI.

According to Khalifa and Albadawy (2024), AI tools have demonstrated significant potential in supporting academic writing. They assist in idea generation, content structuring, literature synthesis, data management, editing, and ensuring ethical compliance. For instance, AI can help organize complex ideas and manage extensive information, facilitating a more efficient writing process. However, challenges such as maintaining academic integrity and balancing AI assistance with human insight persist.

Previous Studies

In Global Context

Researchers have explored various aspects of AI-powered writing tools, including their effectiveness, usability, and students' perceptions. Studies have examined how these tools influence students' writing processes, academic integrity, and learning experiences. Alfadda and Mahdi (2021) used the TAM to gain insights into user reactions to the technology adopted for language learning. The study's results reveal a strong positive correlation between the actual use of Zoom and the students' attitudes and behavioral intentions. In addition, a positive correlation exists between computer self-efficacy and other variables (PU, AU, PEOU, ATT, and BI). Further, while the results reveal no correlation between gender and any variables of the model, it has been found that experience is positively correlated with the variables of TAM.

Similarly, Algerafi, Zhou, Alfadda, and Wijaya (2023) conducted a study to understand the factors influencing higher education students' Intention to adopt artificial intelligence-based robots. Based on the TAM3 model, the study proposes 14 hypotheses to evaluate students' Intention to adopt AI-based robots in education. The findings revealed that 12 hypotheses were accepted, and two were rejected. The results indicate that students are willing to accept AI-based robots in their education. However, the findings revealed an insignificant influence of job relevance and robot anxiety on perceived usefulness and ease of use. The findings of this study will provide insight into university administrations regarding the significance of AI-based robots in education. Moreover, the findings will help robot developers, policymakers, and university administrators design and implement AI-based robots that fulfill contemporary education needs.

The results of structural equation modeling analyses of the study by Liu et al. (2023) indicated that while Perceived Ease of Use fails to predict learners' Attitudes directly, it can affect Attitudes through the full mediator Perceived usefulness. It was also found that learners who have positive attitudes toward the usefulness of ChatGPT tend to demonstrate a higher level of Behavioral Intentions that predict the actual use of this latest AI-powered tool in English learning outside the classroom. Another study (Kamoun, El Ayeb, Jabri, Sifi, & Iqbal, 2024) provides empirical evidence that supports the potential of ChatGPT as a powerful language-learning tool and explored students' and faculty's knowledge, attitudes, and perceptions towards ChatGPT. The study also recommended that EFL learners should utilize to participate creatively and productively in the ecological CALL shaped by constantly emerging AI technologies.

In Vietnamese Context

Though the global research field on AI-assisted academic writing has been rapidly developed, few studies have been conducted in Vietnam, especially at provincial universities such as TDMU. Most current studies involve quantitative methods, resulting in a lack of qualitative research that would shed light on students' perceptions, ethical struggles, and problems when using AI tools. The limited research on English-major students also stands out, as students use AI widely for language learning or academic writing.

Recent studies in Vietnamese context have explored students' views on AI in academic writing in Vietnamese higher education (Le, Quach, Pham, & Nguyen, 2025; Nguyen & Goto, 2024); Tran, Le, and Tran (2025). Nguyen and Goto (2024) explored Vietnamese university students' perceptions of using AI for academic writing, identifying both benefits and concerns. While students appreciate how AI can enhance writing efficiency and language accuracy, they also express concerns about over-reliance, originality, and ethics, suggesting that clear guidelines for AI use in academia are warranted. The empirical results of Le et al. (2025) elucidated numerous significant advantages associated with using ChatGPT in English as a Foreign Language (EFL) writing exercises. They found that students perceive AI tools as beneficial for improving their English writing skills. They highlighted key advantages, such as the convenience of machine translation tools and the accuracy of generative AI for error detection. However, the study also raised concerns that excessive dependence on AI could hinder the development of independent writing abilities. The authors stress the need for a balanced integration of AI-based tools in English language instruction to support adult learners worldwide effectively.

The ChatGPT was also adapted by Le and Tran (2024) to evaluate student attitudes towards AI-assisted writing. Results show that there was a widespread acceptance of AI-produced content within the problem of trust and transparency. Results revealed a willingness to use ChatGPT for homework assignments, which is very much in line with Nguyen and Dieu (2024), which studied students' perceptions of using ChatGPT as an AI writing-assistant tool. The results showed that the students had a moderate and positive attitude towards using ChatGPT and found it valuable and easy to use. The use still came with concerns, but they hoped to use the tool going forward. Besides, it was noted that perceived ease of use predicted perceived usefulness, and both constructs eventually impacted students' attitudes and intentions toward using ChatGPT.

Theoretical Framework

Some relevant theories for examining the integration of AI tools in academic writing courses include TAM and constructivist learning theory, wherein TAM focuses on users' perceptions and attitudes toward technology adoption. Scholars hold that if students find AI tools easy to use and valuable in their academic

tasks, they are more likely to integrate them into their educational programs (Algerafi et al., 2023; Almaiah et al., 2022; Kim, Kim, Knotts, & Albers, 2025b). Since the inception of AI writing tools in 2007 (Zhai & Ma, 2023), scholars and practitioners have attempted to formulate a theoretical framework to understand their impact on academic writing courses. StatSheet was the first automated online sports writing tool introduced in 2007 in North Carolina. Then, in 2009, the Grammarly writing assistant was introduced, followed by other tools like WordSmith and Narrative Science's Quill (Wu, Zhang, Li, & Liu, 2022). With the growing development and uptake of several AI tools today, scholars observe that examining the use of AI in academic writing courses involves drawing upon various theoretical perspectives to analyze its impact, effectiveness, and implications (Aljuaid, 2024; Feng Teng, 2024).

Scholars also explain that subjective norms are due to perceived social pressure from friends and peers to inform students of the use of AI in their research process (Chocarro, Cortiñas, & Marcos-Matás, 2023; Davis, Bagozzi, & Warshaw, 1989; Zhai & Ma, 2023). The Unified Theory of Acceptance and Use of Technology (UTAUT) also helps explain several constructs for AI use in academic writing (Lin, Ho, & Yang, 2022). Some of the reasons for AI uptake in academia could be due to performance expectancy (students believe using AI eases their writing process), effort expectancy (easy to use AI tools and tailor them to personal needs), social influence (perception that peers or teachers are also using AI tools), and facilitating conditions (i.e., existence of technical and organizational infrastructure to support AI utilization) (An et al., 2023; Lin et al., 2022; Wu et al., 2022).

TAM was chosen as the primary framework for this study because it offers a focused and validated model for understanding users' acceptance of technology, which aligns well with the research objective of exploring students' perceptions of AI tools in academic writing. Its core constructs, perceived usefulness, and ease of use are particularly relevant in assessing how students evaluate AI tools like ChatGPT to enhance writing efficiency and reduce effort (Davis, 1989). Compared to UTAUT, TAM is less complex and more adaptable to a specific educational context without requiring extensive demographic or organizational variables. Moreover, while constructivism provides a strong pedagogical lens, it does not directly address technology adoption's motivational or behavioral aspects. Thus, TAM offers a practical and parsimonious framework for investigating the factors influencing students' acceptance and intended use of AI in academic environments, particularly in a rapidly evolving educational landscape like Thu Dau Mot University.

Based on the TAM literature (Davis, 1989), this study proposed the following hypotheses:

H1: *Perceived Ease of Use has a positive effect on Perceived Usefulness.*
H2: *Perceived Ease of Use has a positive effect on Attitude towards Behavior.*
H3: *Perceived Usefulness has a positive effect on Attitude towards Behavior.*
H4: *Attitude towards Behavior has a positive effect on Behavioral Intention.*

Figure 1 presents the conceptual model to showcase the hypothesized inter-factor relationships among TAM component variables.

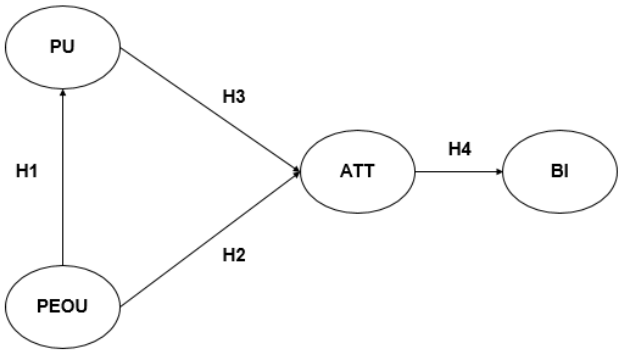

Figure 1: *The Hypothesized Conceptual Model.*
Note: PEOU = Perceived Ease of Use; PU = Perceived Usefulness; ATT = Attitude towards Behavior; BI = Behavioral Intention.

Methodology

Research Design

This study employed a mixed-methods research design to explore students' perceptions of AI in academic writing comprehensively. A combination of quantitative and qualitative approaches allows for a more nuanced understanding of how AI tools impact academic writing, the challenges and opportunities they present, and students' views on AI's role in their writing processes. The investigation was conducted at TDMU, a public university in the province of Binh Duong. Over several years of establishment and growth, the University evolved into a multidisciplinary establishment focusing on application-oriented progress and enhanced global benchmarks.

Sampling

The sample comprised 212 second-year English-majored students at TDM University in Binh Duong Province, Vietnam. All students shared the same learning environment and cultural backgrounds. The eligibility criteria were that all students must be doing all coursework in English, have a good command of the language, and demonstrated experience using AI tools for academic writing. The study was conducted during the second semester of the 2024-2025 academic year. The whole sample of 212 respondents participated in the survey questionnaire; however, for the interview, 10 students were randomly selected to get deeper insights into their perceptions of AI in academic writing.

Research Instruments

A questionnaire was given to all respondents to assess their views on the approach Vannette and Krosnick (2018), and a semi-structured interview was used to gather further data to support the findings from the survey. At a time when AI forms the bedrock of writing, it was necessary to interrogate how students understand and use these new technologies. The structured questionnaire collected quantitative data on students' use of AI tools in academic writing, their perceptions of its advantages and disadvantages, and the impact on writing quality and originality. The questionnaire included 20 items, which were categorized into two sections. The first section comprised four items for participants' demographic information. The second section involved 16 items for measuring constructs regarding the four TAM models of Davis (1989), such as Perceived Ease of Use (PEOU) (4 items), Perceived Usefulness (PU) (4 items), Attitude (ATT) (4 items), Behavioral Intention, (BI) (4 items), using a five-point Likert scale (e.g., strongly agree to strongly disagree). The questionnaire was distributed online via Google Forms; participants were given adequate time to complete the survey voluntarily. Chisnall (1997) believed that non-response is a significant limitation of research. To minimize the non-response rate of the survey, therefore, the researcher was available when disseminating the online questionnaire to the students and while the students were filling out the online questionnaire.

The semi-structured interview explored students' perspectives in depth. An interview guide was prepared with open-ended questions on students' perceptions of using AI tools, perceived challenges and opportunities, and how they view AI's role in their learning process. The flexibility of the semi-structured format allowed for follow-up questions based on participants' responses. The purpose of conducting interviews was to acquire additional information, which could be accomplished by implementing questionnaires (Harris & Brown, 2010). This method allowed researchers to collect open-ended information and examine participants' perspectives, attitudes, and beliefs about a topic.

Data Analysis

In the quantitative phase, after obtaining the questionnaire data, the results were statistically analyzed using SPSS version 20; reliability analysis and mean and standard deviation estimates were also included in the statistical analysis. Notable scientific processes concerning the questionnaire administration were utilized including (i) preparing the study's instruments with the aid of prior studies; (ii) gathering the students to be included in the survey; (iii) delivering and then collecting the online questionnaire to the students; (iv) gathering and evaluating the questionnaire for accuracy and clarity; and (v) using Statistical Package for the Social Sciences 20 (SPSS 20) to analyze the questionnaire responses for the final result and findings.

In the qualitative phase, for the interview survey, the researchers randomly selected 10 individuals from the pool of 212 respondents who had previously shared their opinions through responses to the questionnaire. To effectively conduct the outcomes of the findings during the interviews, the researcher recorded the meeting to examine it afterward with the participants' consent. The researcher informed participants that their replies would only be utilized for the study while ensuring that the information provided would not be utilized for a different purpose. After the interview, the observer re-listened, entered the data into Microsoft Excel, and compared participants' remarks. After receiving complete transcriptions, the interview data were organized based on the study goals.

Ethical Statement

The study adhered to ethical research principles and guidelines by TDM University. Prior to conducting research, all participants were explained about the purpose of the study and provided their voluntary consent. Participants are assured that their personal information will be kept entirely confidential.

Results

Validity and Reliability

These methods were carefully chosen to ensure the reliability of the data collected in investigating students' perceptions of AI in academic writing at the university. Cronbach's Alpha indicates its trustworthiness (as seen in Table 1).

Table 1: *The Cronbach's Alpha of Each Variable in the Questionnaire.*

Constructs	Cronbach's Alpha	No of Items
PEOU	0,836	4
PU	0,801	4
ATT	0,871	4
BI	0,785	4

Note: PEU = Perceived Ease of Use; PU = Perceived Usefulness; AT = Attitude; BI = Behavioral Intention

The descriptive analysis of the questionnaire responses presented in Table 2 indicates that the participants had moderately positive perceptions towards using AI tools to assist with their academic writing. Particularly, mean scores for individual items lay in the range of 3.986 to 4.038, with a corresponding SD fluctuating between 0.337 and 0.520. High Mean values (all above 3.986) and the low degree of variability in their responses demonstrated participants' positive perceptions and attitudes towards the usefulness and functionality of AI tools in their academic writing.

Table 2: *Descriptive Statistics.*

Construct	Item	Sample (n = 212)			
		Min	Max	Mean	SD
PEOU	PEOU1	3	5	3.995	0.395
	PEOU2	3	5	4.005	0.395
	PEOU3	3	5	4.019	0.337
	PEOU4	3	5	4.038	0.411
PU	PU1	3	5	4.028	0.445
	PU2	3	5	4.028	0.434
	PU3	3	5	4.042	0.417
	PU4	3	5	3.972	0.434
ATT	ATT1	3	5	4.000	0.377
	ATT2	3	5	4.033	0.356
	ATT3	3	5	4.038	0.362
	ATT4	3	5	3.991	0.389
BI	BI1	3	5	4.019	0.446
	BI2	3	5	3.986	0.462
	BI3	3	5	4.014	0.482
	BI4	3	5	4.014	0.520

Note: PEU = Perceived Ease of Use; PU = Perceived Usefulness; AT = Attitude; BI = Behavioral Intention

Testing of Measurement Model

As indicated in Table 3, the four TAM constructs' α values were 0.836 (PEOU), 0.801 (PU), 0.871 (AT), and 0.785 (BI). These values were all higher than the 0.7 (>0.7) recommended by Kline (2015), which suggested that reliability was established.

Table 3: *Instrument Reliability and Validity.*

Constructs	Items	Sample (n = 212)			
		Factor Loading (> .4)	Cronbach's Alpha (α) (>.7)	CR (> 0.7)	AVE (>0.5)
PEOU	PEOU1	0,748	0.836	0,827	0,545
	PEOU2	0,778			
	PEOU3	0,702			
	PEOU4	0,724			
PU	PU1	0,795	0.801	0,865	0,616
	PU2	0,790			
	PU3	0,764			
	PU4	0,789			
ATT	ATT1	0,727	0.871	0,822	0,538
	ATT2	0,666			
	ATT3	0,762			
	ATT4	0,772			
BI	BI1	0,710	0.785	0,837	0,563
	BI2	0,730			
	BI3	0,760			
	BI4	0,800			

Note: PEU = Perceived Ease of Use; PU = Perceived Usefulness; AT = Attitude; BI = Behavioral Intention

Discriminant validity refers to the degree of differentiation between constructs in a proposed model. The discriminant validity was assessed by employing the HTMT ratio of correlations (Henseler, Ringle, & Sarstedt,

2015). The HTMT method confirmed discriminant validity as all HTMT values fell below the recommended threshold of <0.85. The results are presented in Table 4.

Table 4: *Heterotrait-Monotrait Ratio (HTMT).*

Constructs	PEOU	PU	ATT	BI
PEOU				
PU	0.65			
ATT	0.70	0.72		
BI	0.68	0.66	0.74	

The final structural model elaborates on the inter-factor relationships among PEU, PU, ATT, and BI, showing that PEOU can influence AT indirectly through PU, while ATT can predict BI.

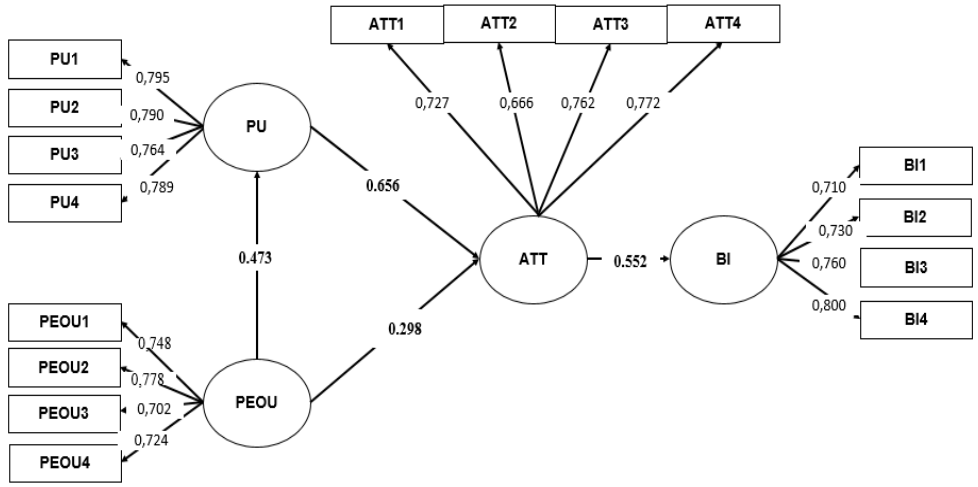

Figure 2: *Final Structural Model.*
Note: PEU = Perceived Ease of Use; PU = Perceived Usefulness; AT = Attitude; BI = Behavioral Intention.

To evaluate the structural model, we adhered to the methods outlined by Hair, Risher, Sarstedt, and Ringle (2019). Table 5 indicates the results of testing four hypotheses, and the data confirmed all four as statistically significant and positive. To be specific, PEOU exhibited a positive impact on PU (β = 0.473, p < .0001), and it also showed an effect on ATT (β = 0.298, p = 0.034). PU could be a significant predictor of ATT (β = 0.656, p < 0.003). Additionally, ATT was observed to have a statistically significant effect on BI (β = 0.552, p < .010).

Table 5: *Hypotheses Test Results.*

Hypothesis	Relationships	Path Coefficients (> 0.2)	P-Value (< 0.05)	Results
H1	PEOU -> PU	0.473	0.001	Supported
H2	PEOU -> ATT	0.298	0.034	Supported
H3	PU -> ATT	0.656	0.003	Supported
H4	ATT -> BI	0.552	0.010	Supported

Results from the Interview

After conducting the questionnaire survey, semi-structured interviews were conducted to gather descriptive information for the qualitative research. Four major open-ended questions were distributed to the students to have deeper insights into students' perceptions and attitudes towards AI tools when it comes to writing academic writing tasks, as follows: *(1) How do you perceive the role of AI in academic writing, and in what ways do you think it enhances or hinders your writing process? (2) Can you describe a specific experience where you used AI tools for academic writing? What benefits and challenges did you encounter? (3) How does the use of AI in academic writing impact originality, critical thinking, and academic integrity? (4) How do you see the future of AI in academic writing, and what concerns or expectations do you have regarding its role in education?*

The interviews were recorded and re-listened, to enter the data into Microsoft Excel, and compare and contrast the participants' remarks. The study's goal was to organize interview data after the transcription services. The researcher selected and coded relevant concepts. A few extracts from the responses are presented in Table 6.

Table 6: *Responses from the Students.*

Student #	Responses
1	AI is a valuable tool for academic writing as it helps refine grammar and structure, making writing clearer and more professional. However, relying too much on AI may hinder creativity.
2	Using AI tools like ChatGPT has improved my writing efficiency. However, I sometimes struggle with accuracy, as AI-generated content may not always align with my intended ideas.
3	AI enhances productivity by offering quick suggestions but limits deep critical thinking. I depend on AI too much, which affects my ability to develop ideas independently.
4	AI tools assist in brainstorming and organization, making complex writing tasks more manageable. However, ethical concerns arise when students use AI to generate complete essays without proper citations.
5	I used AI to check my writing for coherence and grammar, and it was helpful. However, I am worried that it will reduce my ability to think critically during my studies.
6	AI is beneficial for non-native English speakers as it enhances language proficiency. However, it does not always understand context, sometimes leading to inaccurate suggestions.
7	Originality is a primary concern when using AI. While it aids in refining work, plagiarism is risky if students use AI-generated content without modification.
8	AI's role in academic writing will continue to grow. However, educators should implement guidelines to ensure students use AI ethically rather than as a shortcut for writing assignments.
9	AI tools are excellent for generating ideas and improving language use. However, there should be a balance between human effort and AI assistance to maintain academic integrity.
10	I have used AI to check the coherence and grammar of my writing and it has been helpful. Still, I worry that excessive use may reduce my critical thinking in the learning process.

These responses reflect both a sense of appreciation and unease about AI's place in academic writing. Most students agree that AI improves productivity, polishes grammar, and structures writing better than they would. But they also voice concerns about over-reliance on AI and its downsides. Several students point out the AI's benefits in making writing clearer and more professional, for instance: "*AI enhances productivity by giving quick suggestions"* and "*can limit deep critical thinking, as well as generating and developing ideas independently*." (Student3).

Another challenge faced by most students was academic integrity. Students admitted that though AI aided in refining students' work, *"there is a risk of plagiarism when students use AI content without modification"* (Student 3). This calls for the ethical application of AI in education. AI tools to improve the use of the English language. However, humans should work hard to maintain the value of content submitted in academia to prevent students without honor from misusing it. The respondents also agree that AI is beneficial for non-native English speakers in making the language deeper. However, contextual misunderstandings can prompt inaccurate suggestions, as some students have seen. "*AI does not always understand context, sometimes leading to inaccurate suggestions"* (Student 6).

Finally, there was a consensus that the presence of AI in academic writing will only increase, *"I used AI to check my writing for coherence and grammar, and it was helpful. Still, I worry that excessive use may reduce my engagement in the learning process"* (Student 5). Student 10 was concerned about similar issues raised by Student 5, that while AI assisted them with coherence and grammar, too much reliance could impede their learning. Student 8 explained that teachers should have specific guidelines that allow AI to be used ethically rather than as a cheat in writing assignments. Therefore, while AI can be beneficial, students realize that they must balance AI help with their own critical thinking and ethical approach. Overall, students tend to perceive AI tools as helpful supports in their academic writing. The ease of use of AI and its practical benefits have given rise to a positive attitude towards its adoption. Although there are risks (e.g., misinformation and over-reliance), they signal understanding these issues and methods to reduce them. They will, therefore, probably continue to incorporate AI tools into their learning routine.

Discussion

This study examined students' perceptions of AI tools in academic writing, contributing both empirical validation and contextual depth to the existing literature. Quantitative results revealed positive attitudes among participants, with Technology Acceptance Model (TAM) constructs such as Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Attitude (ATT), and Behavioral Intention (BI) yielding mean scores above 3.98. Structural equation modeling confirmed TAM's explanatory robustness, with PU being a strong predictor of ATT and ATT significantly influencing BI. These findings are consistent with previous TAM-based research in educational technology contexts (Sun & Mei, 2022; Wang et al., 2024), reinforcing the notion that students' acceptance of AI tools is driven primarily by their perceived utility. The qualitative component not only corroborated the positive perceptions highlighted by the survey but also introduced new dimensions, such as students' call for clear ethical guidelines. While such concerns have been emphasized in prior

educator-focused studies (Alfadda & Mahdi, 2021), it is noteworthy that students were explicitly raised by themselves in this study. Another noteworthy finding pertains to the indirect relationship between PEOU and ATT. While some previous studies reported a direct influence of ease of use on attitude (Liu et al., 2023), this study states that PEOU enhances ATT primarily through its effect on PU, aligning with findings from Fošner (2024). This indicates that ease of use alone does not shape positive attitudes unless students also perceive the tool as academically beneficial. Such insights offer a more refined application of TAM in AI-enhanced learning environments.

The current study integrates qualitative insights, too, providing a deeper understanding of students' experiences with AI tools. While quantitative data indicated high acceptance levels, the interview responses revealed concerns regarding overuse and ethical risks (Student 4, 9). They highlighted critical thinking issues that traditional TAM constructs did not fully capture. Students acknowledged that while AI improved their writing fluency and productivity, overreliance could reduce their independent engagement and hinder the development of creative thinking (Student 3, 5, 10). These findings highlight a significant gap between the perceived usefulness and broader educational implications of AI tool adoption. These findings are consistent with previous studies (Baidoo-Anu & Ansah, 2023; Chiu et al., 2023), which indicated that language learners become less inclined to develop critical thinking and problem-solving skills when they overly depend on AI tools.

Moreover, this study contributes to a relatively underexplored area by examining the impact of AI on students' originality and cognitive engagement in writing. While much of the existing literature has concentrated on AI-assisted writing tools' technical or linguistic benefits, this research focuses on students' ethical awareness and perceptions of academic integrity. The findings indicate that learners view AI not as a substitute for critical thinking but as a complementary aid supporting their writing process. This perspective underscores the evolving role of AI in education, which encourages responsible use while fostering independent thought and originality in academic writing.

Conclusion

Drawing from the TAM model, the study investigated students' perceptions of using AI to help them complete their academic writing tasks. The findings indicate that students positively perceive using AI to assist with their homework assignments regarding ease of use, usefulness, attitude, and behavioral intention. The factors interact consistently with the TAM model proposed by Davis (1989), providing evidence of students' acceptance of AI that supports their academic assignments.

The positive attitudes and frequent use of AI in EFL learners' activities highlight that AI represents more opportunities to learn English effectively in the era of AI, at least for today's students who may be able "to use technology more effortlessly and intuitively than their teachers" (Rudolph, bin Mohamed Ismail, & Popenici, 2024). In this sense, although AI has imposed challenges to assessment, academic integrity, and other aspects of education, it is essential to better train students on effectively utilizing the technology rather than dismissing the potential benefits it offers language learners. Also, learners in this study are generally willing to draw on the affordances of AI to assist them in their learning process. We would like to call for more language teachers' attention to facilitating and encouraging students' personalized learning beyond the classroom assisted by powerful AI technologies.

This study highlights the need for educators and policymakers to integrate AI tools responsibly in academic writing. While students find AI useful and easy to use, concerns about overreliance, reduced critical thinking, and academic integrity persist. Institutions should embed ethics training into writing curricula to promote responsible AI use. Educators must guide students to use AI as a support tool, not a replacement for original thinking and academic effort.

Future research should explore the longitudinal effects of AI tool usage on students' writing skills, independent thinking, and academic integrity over time. In addition, examining lecturers' perceptions and practices regarding AI integration would provide a more comprehensive understanding of its impact on teaching and learning. Expanding studies across disciplines and cultural contexts will also help refine institutional strategies for AI adoption in education.

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