Students' Perceptions of AI Language Models as Virtual Assistants in Learning Writing- A Case Study at a Tertiary Institution

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https://doi.org/10.54855/ijte.25525

Received: 26/07/2024 Revision: 24/04/2025 Accepted: 29/04/2025 Online: 03/05/2025

ABSTRACT

Research trends in AI language models for writing assistance are increasing, yet a gap exists concerning their impact on language learning, especially in Vietnam, as well as stakeholder attitudes. This study explores perceptions of 147 students, mainly English majors at Van Lang University, regarding AI tools such as ChatGPT, Poe, and Gemini in English writing. Combining quantitative and qualitative analysis through the use of questionnaires and in-depth interviews, the research found a generally favorable student attitude, recognizing AI's accessibility and flexibility. However, concerns about over-reliance and accuracy were identified. Highlighting implications for effective AI integration in Vietnamese writing pedagogy, this study contributes to understanding student perspectives on this evolving educational technology.

Keywords: AI language models, virtual assistant, learning writing

Introduction

In recent years, the integration of AI technology into education has grown significantly due to its numerous advantages in enhancing teaching methodologies and classroom management (Chassignol et al., 2018). Specifically, AI language models have revolutionized language learning by providing automated feedback and personalized writing assistance, and real-time grammar and style suggestions. These innovations have made AI tools increasingly popular as they help students improve coherence, accuracy, and fluency in writing. Moreover, AI-powered virtual assistants offer interactive learning experiences, enabling learners to refine their writing skills through instant corrections and adaptive feedback. By streamlining the writing process, AI not only supports students in developing their writing proficiency but also fosters independent learning and critical thinking (ALAfnan et al., 2023).

Traditional methods of teaching writing, such as classroom instruction, peer assessments, and teacher feedback, have long played a crucial role in developing students' writing skills. These traditional approaches are now complemented by AI-powered virtual assistants that provide instant feedback, correct grammar errors, suggest improvements and facilitate collaborative writing. Such applications as ChatGPT, Grammarly and ProWriting Aid enjoy widespread utilization across educational, professional, and daily contexts since they offer automated

CITATION | Pham, N. T. B., & Tran, T. M. (2025). Students' Perceptions of AI Language Models as Virtual Assistants in Learning Writing- A Case Study at a Tertiary Institution. *International Journal of TESOL & Education*, *5*(2), 87-115. DOI: https://doi.org/10.54855/ijte.25525

written corrective feedback utilizing technology to anticipate subsequent sentences or words in a dialogue or textual command (Fitria, 2023). In simpler terms, they function as chatbots – computer programs designed as virtual robots capable of simulation human-like conversations.

From teachers' perspectives, AI applications can be beneficial in student writing, specifically content quality and organization (Marzuki et al., 2023). They, furthermore, can boost students' engagement and motivation thanks to their natural language capabilities (Baskara, 2023). Not only are these applications studied through descriptive research, but there have been empirical works, such as AlAfnan et al. (2023), showing that ChatGPT, a notable AI chatbot, benefited student writing in various ways, from providing input high in accuracy and reliability, to being a platform for students to look for ideas for theory-based and application-based problems.

As AI language models evolve in sophistication and AI tools become increasingly integrated into education, it is essential to examine student's perceptions and interactions with these technologies in writing instruction. This is because understanding their experiences can help enhance pedagogical strategies and effectively incorporate AI into the writing learning process (Micheni et al., 2024). In the Vietnamese context, there have been a few research studies looking into the roles of these AI-powered writing assistants. However, most of the studies explore the topic from the teacher's views. Among a few that seek student's perceptions, they lack a theoretical framework (Nguyen et al., 2023; Tran, 2024).

By delving into students' attitudes, interests, and the challenges they might face, this study aims to contribute to this ongoing discussion, providing a more thorough understanding of students' perspectives on the effectiveness of AI tools in the learning-to-write process. In particular, the conclusions of this research may be useful to both the students and the faculty members at tertiary education level. This study extends its applicability, employing AI support for learning writing, as well as those utilizing AI for broader educational purposes, in particular, who may experience and recognize themselves in this research. This research could be referenced by the instructors to gain a deeper understanding of students' utilization of virtual tools. To the greatest possible extent, the standard of education at the university involved in the research was conducted will have some proposals related to combining AI with education in the coming years.

Literature Review

Theoretical Framework

This study is based on the Technology Acceptance Model (TAM). Originally developed by Davis (1989), TAM explains technology acceptance through two key factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEU), depicting how users adopt and utilize a particular technology. TAM, therefore, can serve as an appropriate framework for this study because it provides a structured way to examine how students adopt and perceive AI-powered writing tools.

In the context of this study, PU refers to students' beliefs that AI writing tools can improve their writing proficiency, such as by offering grammar correction, instant feedback, and content suggestions. Meanwhile, PEU reflects whether students find these tools easy to use and integrate into their writing learning process. If students perceive AI as both useful and effortless to use, they are more likely to accept and rely on it as a writing assistant.

TAM has been widely applied in educational technology research (Salloum et al., 2019; Venkatesh & Bala, 2008), particularly in studies analyzing user adoption of digital learning

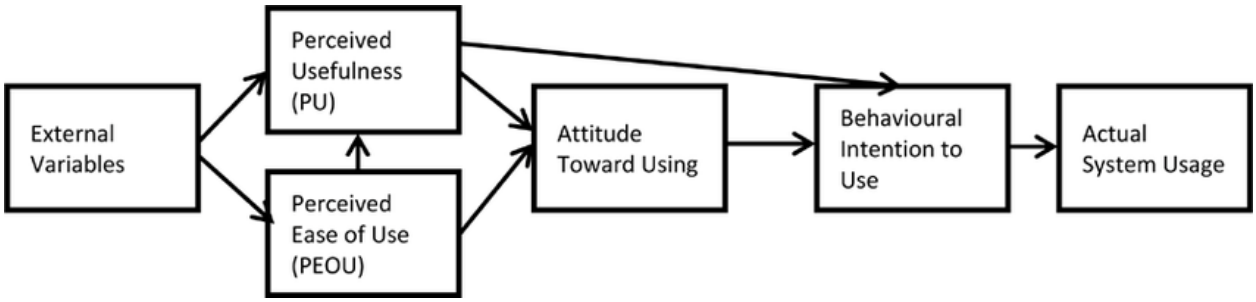
tools. Given the increasing presence of AI-powered writing assistants, TAM provides a clear framework for understanding how students interact with these tools and what factors influence their attitudes toward AI-assisted learning.

Additionally, this study seeks to fill a research gap in the Vietnamese context, where limited studies have explored students' perceptions of AI writing tools. Using TAM allows for a systematic analysis of whether Vietnamese students find these tools beneficial and easy to use, as well as any challenges they face in adoption. Furthermore, by examining students' attitudes, this research can generate practical insights for educators, AI developers, and policymakers. Educators can use these findings to refine how AI is integrated into writing instruction, while developers can leverage the results to enhance AI tools to better meet students' needs.

Overall, TAM provides a solid theoretical foundation for this study by helping explain why students might adopt AI in their writing and what factors influence their acceptance or hesitation. By applying this model, the research contributes valuable knowledge to the ongoing discussion on AI's role in language learning and its potential impact on writing education.

Figure 1.

Framework of Technology Acceptance Model (TAM)



AI Language Models

Large Language Models

Large language models (LLMs) are smart computer programs that understand and create human-like language. According to Floridi's fifth concept (2023), LLMs are revolutionary due to the successful management of the electromagnetic qualities to analyze text and frequently give results indistinguishable from those humans can create. These models have many parameters that conduct pre-training tasks (such as implicit language modeling and autoregressive prediction) to recognize and interpret human language by modeling contextual and probabilistic text semantics from vast amounts of text data (Yang et al., 2023). They can learn word collocations, grammar rules, and the meaning behind sentences. Therefore, Entering the LLMs field is a supercharged language tool, and they are impacting language teaching and learning today (Roose, 2023).

The discussion of LLMs inevitably leads to the foundational field of Natural Language Processing (NLP). The historical development of NLP can be divided into three periods. In the 1950s, Alan Turing introduced the "Turing Test", marking the beginning of NLP ideas. From the 1950s to the 1970s, the rule-based era attempted to replicate the way humans understand language using shared rules. There were substantial improvements in Internet technology between the 1970s and the early 2000s. Researchers have used statistical methods, simplifying NLP problems into probabilistic problems and making breakthroughs in tasks such as language translation and text classification (Li, 2024).

Due to the progress made in the fields of AI and NLP, there has been the emergence of intelligent

tutoring systems and adaptive language learning platforms. One such tool is ChatGPT, developed by OpenAI, which utilizes large-scale language models to generate human-like text based on a given input (Bender et al., 2021). It comes in two versions: a free one is ChatGPT 3.5, and a paid one is GPT-4. OpenAI likely uses feedback from the free version to improve the paid one. There are other platforms, such as Microsoft's GitHub Copilot (a tool developed in collaboration with OpenAI) and Gemini (previously Bard) by Google (Tira, 2023).

It is clear that these LLMs benefit students, teachers, and researchers, especially non-native English speakers, as they enhance academic writing quality. These models can interpret natural human input by drawing from the most appropriate human-requested topics. They also create writing templates derived from the requested content, including unique creativity, interaction styles, and work culture (Bonner et al., 2023).

Neural Machine Translation

Neutral machine translation (NMT) is the main method in systems aimed at translating natural language sentences using actual computers, relying on previous methods based on linguistic rules and knowledge (Tan et al., 2020). It adopts deep learning algorithms to provide more accurate and consistent translations, trained on large bilingual linguistic corpora, aiming to provide reliable translations based on high-probability sentences (Linguaserve, 2023). Instead of relying on many fine-tuned sub-components, NMT attempts to build and train a single, large neural network capable of understanding input sentences and producing accurate translations. It seeks to optimize translation performance through a unified neural network, unlike statistical machine translation, which relies on discrete components (Bahdanau et al., 2014).

Popular online translation platforms such as Google Translate and Microsoft Bing Translator have consistently progressed and integrated the latest developments in NMT to enhance the quality of translation outcomes. The evolution of NMT has transformed the field of machine translation, making it more accessible, accurate, and adaptable to a wide range of languages and contexts.

AI Language Models in Language Learning

The utilization of large AI language models in language classrooms is widespread, with applications spanning all educational levels – from primary and secondary to tertiary and professional development. According to Kasneci et al. (2023), these models contribute significantly to enriching the learning and teaching experiences. They help elementary school students develop reading and writing skills, critical thinking, and comprehension by suggesting corrections, generating questions, and explaining complex texts. In middle and high school education, they aid in language acquisition and master diverse writing styles by generating practice problems and quizzes. University students benefit from these models in research, writing tasks, and critical thinking processes by providing summaries, outlines, and curated resources on specific topics, enhancing their understanding and analytical capabilities when engaging with academic material. Considering that advancements in artificial intelligence are bound to result in continuous enhancements in various language-related activities, it might be opportune to accept the fact that students will increasingly have access to sophisticated writing assistance. In response, there is a need to explore strategies for offering suitable guidance in this context (Carvalho et al., 2022).

In language classrooms, AI can act as a language teacher, promoting personalized learning. Previous studies have shown that AI offers advantages, the first of which is the ability to use chatbots anytime, anywhere, and increased confidence in learning activities compared to human tutors (Sumakul et al., 2022). Secondly, the AI chatbots enable students to participate in

conversations and to receive instant feedback on their language usage and understanding. AI chatbots give students, especially introverted ones, the opportunity to ask questions that they might not feel comfortable asking teachers or peers in class. This creates a low-pressure environment for students to enhance their language skills through practice (Amin, 2023). Likewise, Xiao and Zhi (2023) stated that students see ChatGPT as a learning companion or personal tutor, delivering personalized, readily accessible, and adaptive feedback. However, a number of students remain critical of AI's suggestions and feedback. They demonstrate the capacity to think critically about the information generated by ChatGPT. They reported to modify prompts, train the model, verify and selectively accept the information provided. (Xiao and Zhi, 2023).

The findings of the reviewed studies offer practical insights for using ChatGPT in English teaching and learning across countries. Most of these studies provide positive outcomes of this tool. However, Kasneci et al. (2023) and Xiao and Zhi (2023) have mentioned issues related to plagiarism, copyright, and understanding the source language when utilizing ChatGPT. Plagiarism concerns arise from the ease with which students can generate AI text and submit it as their own, while copyright challenges stem from uncertainties about ownership of AI-created content. The researchers have suggested the feasibility of integrating tech-advanced tools into language classrooms, highlighting the importance of offering guidance to help students use ChatGPT appropriately and effectively. However, since ChatGPT is not the only AI tool available that learners can access, additional research on other LLMs is required to be conducted to discover any other potentials and challenges in greater depth, allowing better utilization of these tools in writing instructions.

Benefits of AI-Language Models as Writing Assistants

In the realm of second-language writing, there are unique challenges stemming from potential shortcomings in lexical, syntactic, pragmatic, or rhetorical knowledge. Navigating through these challenges to offer corrective feedback that genuinely benefits writers proves to be an impressive undertaking (Godwin, 2022).

Notably, ChatGPT, Grammarly, and Google Translate have emerged as advanced tools commonly used to assist in the face of these complexities. These text-based AI models are often freely available on the Internet, and premium versions are available that come with extra features. Advanced systems, such as GPT-3, offer complete texts that require only a general topic or prompt to function effectively (Alharbi, 2023). They can provide detailed suggestions and recommendations for the adaptation of text elements within seconds.

ChatGPT is a versatile tool that supports language learning in various ways, including text generation, translation, summarization, problem-solving, content and grammar correction, vocabulary enhancement, and question-answering. Intelligent writing assistance tools have also improved by generating texts spontaneously and independently, providing linguistically acceptable suggestions and improvements for word choices. With these features, ChatGPT aids in the improvement in students' writing (Athanassopoulos et al., 2023). Among other tools, Google Translate specializes in text translation. Meanwhile, Grammarly is for improving spelling, analyzing text, rewriting, summarizing, and checking for plagiarism (Jumriah et al., 2024). Also, these AI tools are considered useful in assisting English language learners to prepare for such standardized tests, advancing demorcatising global language test preparation (Sari, 2024).

In the Vietnamese context, Ho (2024), Ha and Ho (2025), Nguyen (2023) concur that ChatGPT can provide students with instant and personalized feedback for their writing, and students can

revise their works, either essays or academic papers, from ChatGPT's suggestions. This aids students in enhancing multiple aspects of their writing skills, from lexical resources and accuracy, grammatical range and accuracy, to the organization and development of their ideas. Furthermore, students' motivation in their writing training can be boosted thanks to the benefits ChatGPT can offer (Tran, 2024). Similarly, in an experimental study of Chu et al. (2024), AI writing tools, including ChatGPT and Grammarly, are proved to foster the engagement of students in their English skills, including writing skills. Meanwhile, Poe, another AI-power writing assistant, is revealed to stimulate tertiary students' interest in one aspect of learning writing, which is vocabulary (Pham et al., 2024).

Disadvantages of AI Language Models as Writing Assistants

Despite their potential benefits, there is an ongoing debate about the impact of AI language models on education, with concerns raised about their limitations and ethical issues.

Firstly, there are arguments about the quality of AI-generated feedback. Such tools as Grammarly are reported to perform quickly in correcting grammatical errors, yet fail to provide in-depth comments on the logic, creativity, and style in learner's writing (Duong & Le, 2024; Ha & Ho, 2025), misleading the students into thinking that improving writing work is simply correcting grammatical mistakes, leaving out coherence and cohesion.

In a worse scenario, LLMs such as ChatGPT and Google's Gemini are even reported to have a phenomenon called "hallucination", meaning their content can include fabricated information presented in the form of facts. This is caused by source- reference divergent data used to train the model. The problem can also root in the modelling process when there are errors in text encoding and decoding (Athaluri, 2023; Lee et al., 2022; Tira, 2023; Ziwei et al., 2023). Phan (2023) also points out this problem of AI writing assistants, discovering sometimes they provide students with inaccurate responses. However, the study does not dive into how critical students are when encountering the problem.

Furthermore, the overuse of AI-powered tools can lead to laziness and reduce students' ability to absorb and interpret language. Tira (2023) has mentioned that modern technology is threatening education as cheating in stealing ideas and plagiarism becomes easier. For instance, ChatGPT has the ability to create English essays, which raises ethical concerns that students can use these tools to cheat. This ease of generating text can foster laziness by reducing the cognitive effort students spend in actively engaging with the language, such as choosing words and constructing sentences themselves. Moreover, when students bypass active language processing through AI assistance, they may fail to encode new vocabulary, grammatical patterns, and contextual nuances, ultimately hindering their ability to absorb and interpret the language effectively. The existence of laziness and cheating will continue without the educational values of integrity and respect. The existence of laziness and cheating will continue without the educational values of integrity and respect. It is important to remember that technology was created to be an assistant, not a scammer, yet what is alarming is that these chatbots lack contextual comprehension, critical thinking abilities, and the capacity to make ethical decisions (Tira, 2023).

Relevant training is essential to enhance users' digital literacy skills and prevent misuse. The lack of detailed feedback from ChatGPT and the need for human supervision, especially teachers' instruction and guidance, are also subjects of concern (Athanassopoulos et al., 2023; Ho, 2024).

Students' Perceptions of Using AI-Language Models

As artificial intelligence (AI) tools become increasingly integrated into writing instruction, researchers have explored students' perceptions of their benefits and limitations, revealing both positive attitudes and significant concerns regarding their effectiveness and ethical implications.

Sumakul et al. (2022) revealed that EFL learners generally hold favorable attitudes toward AI technology in their writing classes. These positive perceptions stem from AI's ability to enhance comprehension of theoretical concepts, facilitate the writing process, and support grammar and vocabulary acquisition. However, students perceive AI tools as less effective for tasks requiring text analysis or summarization.

Despite these advantages, concerns regarding the limited accuracy of AI-powered writing tools are widespread. Phan (2023) found that tools such as Google Translate and Grammarly occasionally produce inaccurate outputs, raising doubts about their reliability. Additionally, some students express apprehension about AI's potential impact on their writing development, fearing that over-reliance on these tools may reduce their motivation to learn, hinder independent writing skills, or erode personal writing styles. The risk of creating dependency on AI-generated suggestions is another frequently cited drawback.

Beyond academic concerns, students also show their fear of ethical and professional apprehensions. Some of them are afraid that AI advancements could lead to job displacement, particularly in fields such as teaching and translation. Moreover, issues of data security and privacy breaches, including risks of data leaks, surveillance, or unauthorized access to personal information, have emerged as critical concerns. Plagiarism and fairness issues are also debated; while AI tools provide comprehensive writing support, some students argue that they create unfair advantages, particularly when premium features are restricted to paid subscribers (Burkhard, 2022).

The studies discussed above employed both qualitative and quantitative research methods to investigate students' perceptions of AI-assisted writing. While most findings indicate positive attitudes toward AI, the effectiveness of these tools largely depends on students' perspectives and evolving learning processes. Moreover, quantitative studies in the Vietnamese context about the voices of students themselves are limited in number and rely on small sample sizes as well as short intervention periods, which may restrict the generalizability of their findings. Given the rapid advancement of AI language models, there is an urgent need for more research, particularly in second-language learning settings, to provide deeper insights into AI's long-term impact on students' writing skills and academic development.

Research Questions

The following are the research questions that were developed based on the purpose of this investigation:

- Research question 1: What are students' attitudes towards using AI language models as English writing assistants?
- Research question 2: How do students perceive the effectiveness of AI language models as virtual assistants in improving their writing skills?
- Research question 3: What challenges do students face in using AI language models in learning writing?

Methods

Pedagogical Setting & Participants

This study was conducted at Van Lang University in Ho Chi Minh City, with participants drawn from various disciplines, primarily English Language majors who frequently engage in writing tasks. Their English proficiency levels range from basic to advanced as they pursue professional certifications in their respective fields.

At Van Lang University, writing instruction varies by discipline. For English Language majors, it is taught as a standalone module, while for students in other disciplines, it is integrated with other language skills. In writing classes, students combine traditional learning methods with AI language models for various purposes, including grammar correction, text translation, and paraphrasing, to enhance the clarity and readability of their essays.

As for the quantitative data, convenience sampling was utilized for the survey portion. The researcher targeted classes at Van Lang University, specifically Writing and other specialized English courses where students have a strong foundation in writing skills and frequent practice. This approach offered practicality in terms of time, effort, and cost-effectiveness (Acharya et al., 2013; Golzar et al., 2022). A total of 147 students from various majors participated in the survey. Notably, the year-level distribution showed a higher concentration of final-year students (72.8%), followed by third-year (14%), second-year (11%), and first-year students (2.2%). All participants were actively engaged in developing their English writing skills, and a majority reported using AI language models. These data were shown in the demographic questions in the questionnaire.

Regarding qualitative data, to gain deeper insights, the study additionally employed voluntary sampling. Ten students majoring in English Language from Van Lang University volunteered for semi-structured interviews, providing valuable qualitative data on the research topic.

Research Design

A mixed-methods approach was employed in this study, integrating both qualitative and quantitative methods to enhance the accuracy and reliability of the findings. These two methodologies are complementary and mutually reinforcing, allowing for a more comprehensive understanding of the research problem. As Kelle (2006) emphasizes, combining qualitative and quantitative approaches, especially in social science, enables researchers to capture both depth and breadth in their analysis. Similarly, Fraenkel et al. (2012) and Almalki (2016) both argue that these methods work in synergy, each contributing unique strengths to ensure more convincing and well-rounded results.

The quantitative design is to produce a questionnaire with a 5-point Likert scale on which participants can score their level from 1 (strongly disagree), 2 (disagree), 3 (no opinion), 4 (agree), and 5 (strongly disagree) with the suggested statement. The researcher chose a 5-point Likert scale instead of a 4-point Likert scale to avoid lacking neutral opinions from respondents. The 4-point Likert scale has lower accuracy and provides less ability to clarify a point of view (Wittink & Bayer, 2003). Meanwhile, the study of Joshi et al. (2015) revealed that the 5-point Likert scale has been recommended by most of the researchers because it will reduce the frustration of respondents' patience and the rate and quality of response will be increased. It is applied to find statistics, predict, discover cause-and-effect relationships, and apply knowledge to larger participant groups.

The semi-structured interview method is used to design qualitative research. This includes asking a basic set of questions, but it also allows conversations to deepen and develop in ways

that participants actively address. This method aims to collect high-quality and insightful information on the study topic. According to Bhandari (2020), the qualitative method focuses primarily on language, and it is used to understand diverse ideas, beliefs, and perspectives.

In summary, the mixed-method approach assists the researcher in answering the three questions in this study since the 5-point Likert scale may be examined at various levels, including neutral viewpoints, while interviews will directly clarify students' awareness of employing AI language models in their writing learning. Combining both methods in a mixed approach will supply findings from general to specific, helping readers better understand the study.

Research Instruments

This study has applied a quantitative design approach using a questionnaire. This survey consists of 33 items in total and is separated into four sections: students' attitudes, students' perceptions, benefits, and drawbacks of AI language models.

Table 1

The Number of Items, Cronbach's Alpha, and Example Item

Criteria	Number of items	Cronbach's alpha	Example item
Students' PU	7	0.839	"AI language models help me improve the quality of learning English writing."
Students' PEOU	6	0.706	"I'm able to use AI language model platforms easily to achieve the requirements in my articles."
Benefits	10	0.915	"My writing skills improved after using AI language models."
Drawbacks	10	0.857	"AI language models make me lazy to think of new ideas because they come up with a lot more creative ideas."

Cronbach's Alpha is used to analyze the survey's reliability. The rule of an acceptable range of Cronbach's alpha is a value above 0.70, 0.80 or higher is preferred (Cortina, 1993). At first, a pilot study among 40 students was conducted, using the original version of the questionnaire with 35 items. After testing the pilot data on SPSS, two items were eliminated from the section about students' PEOU, reducing the number of items of this section from 8 to 6. This is because those two items made the Cronbach's Alpha of the set be at 0.697, which was under the recommended Cronbach's Alpha 7.0. The revised questionnaire then featured better Cronbach's Alpha as shown in the table above. All the items have Cronbach's alpha above 0.70, which shows that reliability is at an acceptable level.

To assess students' perceptions of using AI language models, the researcher designed a questionnaire with a 5-point Likert scale and the items based on the TAM framework with two main factors PU and PEOU. The questionnaire is divided into four sections, each of which answers three research questions in this study. Sections 1 and 2 will answer research question 1 regarding students' views of use, section 3 will answer research question 2 about the specific benefits of AI language models, and section 4 will answer question 3 about the disadvantages of utilizing AI language models.

The study's validity was confirmed through evaluations by instructors and survey participants. A lecturer with research experience reviewed the study's content, procedures, and data analysis to verify the accuracy and reliability of the results, which made significant contributions to

confirming the research methodologies and outcomes. Additionally, all responses from survey participants were also used to check the accuracy and reliability of the data. This includes reviewing the responses, evaluating the dependability of the information gathered, and finding out about any problems that happened during the data collection process.

To complement the quantitative data and gain a deeper understanding of participant perspectives, semi-structured interviews were used. This approach utilizes a core set of pre-determined questions, in this case, six questions in total, that serve as a guide, while allowing flexibility for follow-up inquiries and exploration of emerging topics (Gill et al., 2008). This flexibility fosters a more natural conversation, encouraging participants to share their opinions, feelings, beliefs, and motivations regarding the research topic (Gill et al., 2008).

Data Collection

Distributing Questionnaires

Google Forms was used in this study's survey questionnaire. Using an online questionnaire created by the Google Forms tool is the best option for both participants and researchers because it makes the process more convenient (Abhishek, 2024; Vasantha & Harinarayana, 2016). The questionnaire had four main sections based on three research questions. Parts 1 and 2 include the observations about students' attitudes toward AI language models' benefits on writing skills. Part 3 explores the benefits of AI language models for students' writing learning. Part 4 focuses on exploiting the disadvantages when students use AI tools in the writing classroom. All format sections were a 5-point Likert scale (strongly disagree, disagree, no opinion, agree, strongly agree) to elicit participants' opinions. Once the researcher receives the required responses from participants, the Google Form will close for data collection and analysis.

Conducting Interviews

There are a total of six interview questions, with follow-up ones. With the support of experienced researchers, questions are checked, reviewed, confirmed and adjusted to ensure their relevance to the research. The clarification of the questions is also considered to avoid complications during the interview process and later data analysis.

Interviews are conducted and recorded using the Microsoft Teams application. This app allows organizing a meeting, recording it, and also creating a script conversation instead of meeting in person to conduct interviews and take notes (Sah et al., 2020; Wakelin et al., 2024). All of these operations can be performed on the application.

The researcher asked for the participants' agreement before recording the interview and committed all the information for the aim of the study. The responses are transcribed using Teams' transcript tool. The responses are returned to the respondents for confirmation of what they said throughout the interviews. In the interview process, respondents can refuse to answer questions or can ask to stop at any time during the interview.

Data Analysis

Quantitative data were processed through SPSS software, which was described and analyzed by using basic statistics such as Mean (M) and Standard Deviation (SD) in the Likert scales. The study of Sin Yin et al. (2016) revealed that in Likert scales, M and SD ensure grouped items provide similar information. As suggested by Alkharusi (2022), the interpretation of M would be:

- Mean: 1.00 – 1.49: Strongly disagree
- Mean: 1.50 – 2.49: Disagree

- Mean: 2.50 – 3.49: Neutral
- Mean: 3.50 – 4.49: Agree
- Mean: 4.50 – 5.00: Strongly agree

Meanwhile, qualitative data from semi-structured interviews was analyzed to provide deeper insights and complement the findings from the quantitative data, using methods outlined by Creswell (2014). A thematic analysis approach was employed to identify recurring patterns, themes, and key insights from participants' responses. The analysis followed a systematic process, including data familiarization, coding, theme development, and interpretation, ensuring a rigorous and structured examination of the qualitative data. By integrating both quantitative and qualitative findings, the study was able to offer a more comprehensive understanding of the research issues, allowing for a richer, more nuanced interpretation that clarifies and supplements the survey results.

Findings and Discussion

Table 2

AI Language Models That Students Have Used

AI language models	Total	Percentage
Google Translate	138	93.9
Chat-GPT 3.5	99	67.3
Grammarly	128	87.1
Quillbot	108	73.5
Gemini	49	33.3
Bing Translator	1	0.7
Papago	1	0.7
TFlat	1	0.7

Table 2 presents the AI language models that students have used. The most frequently used models were Google Translate (93.9%), Grammarly (87.1%), Quillbot (73.5%), and ChatGPT 3.5 (67.3%). Gemini was used by 33.3% of the respondents, while Bing Translator, Papago, and TFlat were each used by 0.7%.

Table 3

Students' Attitudes of Using AI Language Models

		n	M	S.D.
1	I find it difficult to learn writing without using AI language models.	147	3.10	0.96
2	The process of writing English learning is easy when I use AI language models.	147	3.98	1.10
3	AI language models help me improve the quality of my essays.	147	4.14	0.77
4	AI language models help increase the quality of writing English learning.	147	3.88	0.87
5	Using AI language models helps me save time and complete exercises more quickly.	147	4.23	0.82
6	AI language models help me increase my proactiveness in writing learning.	147	3.44	1.11
7	Overall, I believe AI language models are useful for my learning writing process.	147	4.19	0.78

The results in Table 3 showed that most of the respondents do not need to use AI language models in all their writing exercises. They can finish writing tasks by themselves. Also, they already know how they can benefit from AI tools for checking their writing and saving time, and they believe that these applications are useful for them (M=4.19, SD=0.78). As revealed in the interview, students #1, #4, #7, #8, and #10 said that they would use AI tools, such as Grammarly, ChatGPT, and Google Translate, to check grammar, vocabulary and the fluency of their writing after finishing their work. However, the opinion of respondents who do not believe that AI tools can increase their proactiveness is varied (M=3.44, SD=1.11). For example, students #2 and #3 have mentioned that they intend to be lazy for thinking new ideas for their writing.

> *"I need to learn how to use these applications properly because I recognize that I immediately check everything I have written" (student #2).*

Table 4

Students' Perceptions of Using AI Language Models

		n	M	S.D.
1	I'm confused when using AI language models.	147	2.50	1.05
2	The AI language model systems are still stereotypical and lack flexibility.	147	3.33	1.10
3	I need to check the instructions for using AI language models regularly.	147	3.10	1.10
4	The features of AI language models are difficult to use.	147	2.50	1.01
5	I can operate on AI language model platforms to easily serve my articles' requirements.	147	4.01	0.81
6	AI language model platforms have instructions for users to use the features.	147	3.61	0.99

Table 4 shows that most students find these AI language models easy to use, and they do not need to spend time searching for the instructions. All the students in the interview agree that these tools have user-friendly interfaces, and they can access them easily. Students #1, #3, #8, and #9 mentioned that they only need to register with their email accounts and then use these tools; some apps do not require registration.

However, students #1, #2, #4, #7, #8, and #10 said they would access some platforms to find the proper prompts to use ChatGPT. They mentioned that sometimes ChatGPT could not reply to their answer accurately because they did not clarify their requirements. According to students #2 and #10, the prompts need to be checked to achieve the answers that serve their requirements because these tools often offer us general answers and cannot solve their problems.

As shown in Table 5, all the students agree that AI language models are beneficial virtual assistants as the M of all items is above 3.49 and the SD of all items is below 1. The majority of students perceive they can benefit from these AI tools. Their writing style, grammar, and vocabulary are improved based on the AI feedback.

Table 5

The Benefits of AI Language Models

		n	M	S.D.
1	AI has a large amount of information that helps me in the writing process.	147	4.21	0.86
2	AI language models help me learn new vocabulary.	147	3.99	0.94
3	I can check my grammar thanks to AI language models.	147	4.18	0.79
4	AI language models help me arrange sentences in an essay logically.	147	3.90	0.95
5	AI language models give me ideas for my writing topic.	147	4.05	0.82
6	I paraphrase quickly by using AI language models.	147	4.23	0.79
7	AI language models help me adjust the appropriate writing style.	147	4.03	0.80
8	I complete my writing assignments quickly and easily by using AI language models.	147	4.10	0.86
9	The reviews and comments by AI language models are helpful for my writing.	147	3.98	0.88
10	My writing skills improved after using AI language models.	147	3.90	0.88

However, according to students #2 and #4, they gradually acquired the AI comments without checking but sometimes the feedback was unnecessary. Also, most of the interview respondents have used AI tools for summarizing and said that the summary versions have not met their requirements.

> *"I have used these AI tools to brainstorm ideas for my essays; however, the ideas are general. I also have to use more than two tools for paraphrasing and searching information to get accurate outputs" (student #4).*

Table 6

The Drawbacks of AI Language Models

		n	M	S.D.
1	I depend on using AI language models to check grammar.	147	3.37	1.07
2	I depend on using AI language models to check vocabulary.	147	3.28	1.06
3	I had to adjust the prompts many times to achieve the exact answer I asked from AI language models.	147	3.75	0.97
4	I depend on using AI language models to paraphrase my essay.	147	3.50	1.01
5	AI language models make me lazy to think of new ideas because they come up with more creative ideas.	147	3.49	1.11
6	Relying on AI language models exposes me to the risk of unintentionally plagiarizing content.	147	3.65	1.04
7	I'm worried that my personal information and data will be leaked and used by AI language models.	147	3.60	1.12
8	The answers of AI language models are not completely accurate.	147	3.92	0.95
9	Comments from AI language models are still general and do not contribute much to improving my writing.	147	3.64	1.06
10	I'm worried that I will cheat on most writing assignments because of the AI convenience.	147	3.50	1.12

As revealed in Table 6, the responses show that students have not recognized whether they depend on AI tools to check grammar and vocabulary, but these opinions are varied, which should be focused for further discussion (M=3.37, SD=1.07; M=3.28, SD=1.06). Also, most students have no opinion about AI making them lazier (M=3.49, SD=1.11).

> *"The ideas that come from AI outputs are not human-like answers and do not serve my requirements, I need to check the information before using them in my essay" (student #4).*

Most of the respondents show that they choose to build their writing ideas by themselves without using AI due to their lack of creativity. These tools play the role of assistants in providing suggestions for grammar and word choice. The students most concerned about utilizing AI tools can lead to unintentional plagiarizing and creating dependence. The comments from the chatbots have not been clarified, so they do not contribute much to students' writing.

Furthermore, participants were not aware that personal information had been leaked. According to most students, these chatbots only access their email accounts, and they can use the features immediately. Nonetheless, student #2 mentioned that all the activities people have done on the Internet will leave footprints, so they should pay more attention to their data. Student #8 also recommends that people should check the information carefully whenever using the AI tools because the prompts might include their personal data.

Discussion

The finding that students frequently utilize Google Translate, Grammarly, Quillbot, and ChatGPT 3.5 aligns with the literature highlighting the widespread integration of large AI language models in language learning (Kasneci et al., 2023; Alharbi, 2023; Jumriah et al., 2024). The positive attitudes reported by students regarding the usefulness of AI in saving time and improving essay quality resonate with the benefits of AI as writing assistants discussed by Athanassopoulos et al. (2023) and the advantages of chatbots in providing readily available assistance noted by Sumakul et al. (2022).

Beyond accessibility, the positive attitudes reported by students regarding the usefulness of AI in saving time and improving essay quality align with the benefits of AI as writing assistants discussed by Athanassopoulos et al. (2023) and the advantages of chatbots in providing readily available assistance noted by Sumakul et al. (2022). The preference observed in this study for students to generate their own ideas and use AI for grammar and word choice further suggests a recognition of AI as a tool for refinement, consistent with Godwin's (2022) perspective on the challenges of providing truly beneficial corrective feedback in second-language writing, where AI can offer immediate suggestions on certain aspects.

Despite these advantages, several challenges and concerns emerged from this study. Firstly, the concern raised by some students in this study about the potential for AI to induce laziness in generating ideas is similar to the ethical concerns and potential drawbacks discussed by Tira (2023), who mentioned the threat of technology leading to easier cheating and plagiarism, and the reduction of cognitive effort in language processing. Secondly, the challenges in formulating effective prompts for ChatGPT and the issue of inaccurate or general responses demonstrates the "hallucination" phenomenon reported in LLMs by Athaluri (2023), Lee et al. (2022), Tira (2023), and Ziwei et al. (2023), and the problem of inaccurate responses noted by Phan (2023). Furthermore, the instances of students in this study accepting AI feedback without critical evaluation align with the concern raised by Duong & Le (2024) and Ha & Ho (2025) about tools like Grammarly potentially misleading students into focusing solely on grammatical

correctness and overlooking crucial aspects of writing like logic and style. Finally, the concerns about potential dependence on AI and the risk of unintentional plagiarism expressed by students in this study mirror the issues highlighted by Kasneci et al. (2023) and Xiao and Zhi (2023) regarding the ease with which AI-generated text can be submitted as one's own, raising ethical considerations in academic settings. Finally, the limited awareness regarding personal data privacy among some students in this study contrasts with the ethical and professional apprehensions discussed in the literature, where concerns about data security and privacy breaches are emerging as critical issues (Burkhard, 2022).

Conclusion

Summary of the Study

From the information analyzed, students' perceptions of AI language models are consistent with what is discussed in the literature review. Most students find AI language models easy to interact with, and they do not encounter any significant problems accessing these tools.

Using AI tools offers them substantial benefits in the process of learning writing. Firstly, these virtual assistants help students save time by providing a vast amount of information quickly. Additionally, students agree that using AI language models improves their vocabulary, grammar, and writing style. The diverse vocabulary and writing ideas generated by AI help students expand and enrich their vocabulary. Moreover, these virtual assistants provide students with instant feedback, help them identify the mistakes and shortcomings in their work promptly, and enhances their writing abilities in the long term. Last but not least, AI tools increase students' confidence and accuracy in presenting their opinions.

However, the study also highlights a potential downside: students' dependence on AI technology. Many students rely on AI to check their writing before submitting it to their teachers. This raises questions about the development of students' autonomy. While using AI, students should be mindful of not becoming too dependent on technology and should focus on developing their self-learning skills.

Overall, AI language models have brought students numerous benefits in learning to write. They provide diverse information about vocabulary and writing ideas, help improve writing, and support grammar checking. However, students need to create accurate prompts to get the best results from AI. They should also be cautious not to rely excessively on technology and should work on improving their writing skills through self-study and practice.

Limitations of the Study

This study has several limitations, including a small sample size and reliance on manual analysis for qualitative data, which may not fully eliminate deviations and may affect the level of trust in the findings. Future studies should aim for larger sample sizes, use random sampling techniques, and consider alternative research methods beyond descriptive studies to generate deeper and more comprehensive insights in the field.

Implications

The study offers several implications for students and instructors. Students must learn how to create effective prompts to achieve accurate results from AI models. Offering detailed requirements is crucial for obtaining favorable responses from AI. Despite the diversity of information provided by AI, concerns about accuracy and detail remain. Therefore, students need the knowledge and analytical skills to use AI-generated information reasonably and

reliably.

For teachers, AI language models hold potential benefits due to their convenience and time-saving capabilities. Instructors should explain to students the role and capabilities of AI in the learning process, helping students use these models effectively. AI tools can assist teachers in designing lessons, updating information quickly, and recommending classroom activities. Appropriately applying AI tools can foster positive interactions with students. Since AI chatbot outputs may not always be accurate, instructors should encourage students to analyze, evaluate, and select information critically, thereby developing their critical thinking skills.

This study underscores the need for further research. Future studies should explore the long-term impacts of using AI language models in writing instruction and investigate strategies to mitigate students' dependence on technology. Additionally, research should focus on how AI tools can be integrated into different educational contexts and disciplines, examining their effects on various aspects of learning and teaching. Experimental designs with larger and more diverse samples can provide more robust evidence and deeper insights, helping to refine the use of AI in educational settings.

Acknowledgments

We sincerely extend our heartfelt appreciation to Assoc. Prof. Pham Vu Phi Ho and Mr. Le Quang Thao for their invaluable suggestions and constructive feedback, which significantly contributed to the study's design. Additionally, we express our deepest gratitude to the students at Van Lang University, particularly those from the Faculty of Foreign Languages, for their active participation in the questionnaire and their willingness to engage in the interview process. Their insights and support were instrumental in shaping the findings of this research.

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Biodata

Pham Ngoc Thai Binh, a former English Language major at Van Lang University, possesses three years of experience as a teaching assistant in an English center. Her professional interests include a passion for languages, a dedication to teaching, and a keen interest in blended learning methodologies.

With experience as an English Language Teaching lecturer at Van Lang University, Ms. Tran Thi Mai has taught a diverse range of courses, from general English to specialized subjects and test preparation. Her teaching is driven by a philosophy of constant enhancement, aiming to equip students with enriched knowledge, honed skills, and a positive, independent attitude towards lifelong learning. Her research explores mindful learning, blended learning, and autonomy in language acquisition.

APPENDICES

APPENDIX 1: QUESTIONNAIRE

Dear Participants,

My name is Phạm Ngọc Thái Bình, and I am a final-year student (Cohort 26) majoring in English Language at the Faculty of Foreign Languages, Van Lang University. I am currently conducting a research study titled:

"Students' Perceptions of AI Language Models as Virtual Assistants in Learning Writing."

What Are AI Language Models?

AI language models are artificial intelligence (AI) systems trained to process and generate human-like text. These models, such as ChatGPT, Gemini (Bard), Google Translate, and Grammarly, learn from large and diverse datasets to generate new text based on their training. They have various applications, including content creation, automated email responses, coding assistance, storytelling, translation support, and other natural language processing tasks.

Survey Participation & Confidentiality

- All personal information provided in this survey will remain strictly confidential.
- The survey is conducted for academic purposes only and is non-commercial.
- As this research contributes to my graduation thesis, I kindly ask for 10 to 20 minutes of your time to carefully read and answer the questions.
- The success of this study relies on your valuable responses and participation, which will greatly support the research findings.

Thank you for taking the time to participate in this survey! I truly appreciate your support and hope you achieve all your goals in the future.

For any inquiries, please feel free to contact me at: [contact detail].

Part 1. Personal information

1. What's your major at Van Lang University? _____

2. You are a: ☐ Freshman ☐ Sophomore ☐ Junior ☐ Senior

3. Have you ever used AI language models in learning languages? ☐ Yes ☐ No

4. Which AI language models do you often use to assist in language learning? (can choose multiple answers):

☐ Google Translate ☐ Chat-GPT 3.5 ☐ Grammarly ☐ Quillbot ☐ Gemini

☐ Others: ….

Please read each one and click on the bullet to show how much you agree or disagree with each statement.

1: Strongly disagree
2: Disagree
3: Neutral
4: Agree
5: Strongly agree

Part 2. Students' attitudes of using AI language models

		1	**2**	**3**	**4**	**5**
1	I find it is difficult to learn writing without using AI language models.					
2	The process of writing English learning is easy when I use AI language models.					
3	AI language models help me improve the quality of my essays.					

4	AI language models help increase the quality of learning English writing.					
5	Using AI language models helps me save time and complete exercises more quickly.					
6	AI language models help me increase my proactiveness in writing learning.					
7	Overall, I believe AI language models are useful for my learning writing process.					

Part 3. Students' perceptions of using AI language models

		1	**2**	**3**	**4**	**5**
1	I'm confused when using AI language models.					
2	The AI language model systems are still stereotypical and lack flexibility.					
3	I need to check the instructions for using AI language models regularly.					
4	The features of AI language models are difficult to use.					
5	I can operate on AI language model platforms to easily serve my articles' requirements.					
6	AI language model platforms have instructions for users to use the features.					

Part 4. The benefits of AI language models

		1	**2**	**3**	**4**	**5**
1	AI has a large amount of information that helps me in the writing process.					
2	AI language models help me learn new vocabulary.					
3	I can check my grammar thanks to AI language models.					
4	AI language models help me arrange sentences in an essay logically.					
5	AI language models give me ideas for my writing topic.					
6	I paraphrase quickly by using AI language models.					
7	AI language models help me adjust the appropriate writing style.					
8	I complete my writing assignments quickly and easily by using AI language models.					
9	The reviews and comments by AI language models are helpful for my writing.					
10	My writing skills improved after using AI language models.					

Part 5. The drawbacks of AI language models

		1	2	3	4	5
1	I depend on using AI language models to check grammar.					
2	I depend on using AI language models to check vocabulary.					
3	I had to adjust the prompts many times to achieve the exact answer I asked from AI language models.					
4	I depend on using AI language models to paraphrase my essay.					
5	AI language models make me lazy to think of new ideas because they come up with more creative ideas.					
6	Relying on AI language models exposes me to the risk of unintentionally plagiarizing content.					
7	I'm worried that my personal information and data will be leaked and used by AI language models.					
8	The answers of AI language models are not completely accurate.					
9	Comments from AI language models are still general and do not contribute much to improving my writing.					
10	I’m worried that I will cheat on most writing assignments because of the AI convenience.					

APPENDIX 2: RELIABILITY TEST

1. Students' attitudes of using AI language models

Case Processing Summary

		N	%
Cases	Valid	111	100.0
	Excluded[a]	0	.0
	Total	111	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.839	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A1	23.8378	15.864	.348	.855
A2	22.9189	14.184	.748	.794
A3	22.7928	14.548	.664	.806
A4	23.0000	14.255	.673	.804
A5	22.7027	14.847	.617	.813
A6	23.4414	13.885	.506	.838
A7	22.7658	14.636	.697	.803

2. Students' perceptions of using AI language models

2.1. Original items' reliability

Case Processing Summary

		N	%
Cases	Valid	111	100.0
	Excluded[a]	0	.0
	Total	111	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.697	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B1	24.6486	14.975	.376	.670
B2	23.8649	13.700	.505	.637
B3	24.0270	14.117	.448	.652
B4	24.5766	14.028	.495	.641
B5	23.1532	16.331	.318	.682
B6	23.5225	15.088	.377	.670
B7	23.2342	16.308	.280	.689
B8	23.0450	16.662	.274	.689

2.2. Revised items' reliability:

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	111	100.0
	Excluded[a]	0	.0
	Total	111	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.706	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B1	16.6216	10.274	.536	.635
B2	15.8378	9.773	.563	.623
B3	16.0000	9.673	.583	.616
B4	16.5495	9.741	.613	.608
B5	15.1261	13.638	.094	.749
B6	15.4955	12.198	.235	.727

3. The benefits of AI language models

		N	%
Cases	Valid	111	100.0
	Excluded[a]	0	.0
	Total	111	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.915	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C1	36.2883	34.280	.661	.908
C2	36.4865	32.888	.697	.906
C3	36.2883	34.716	.655	.908
C4	36.6216	33.201	.671	.907
C5	36.4775	36.724	.443	.919
C6	36.2252	34.031	.735	.904
C7	36.4234	34.028	.743	.903
C8	36.4234	32.792	.780	.900
C9	36.4865	32.979	.785	.900
C10	36.5766	34.192	.699	.905

4. The drawbacks of AI language models

Case Processing Summary

		N	%
Cases	Valid	111	100.0
	Excluded[a]	0	.0
	Total	111	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.857	10

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
C1	32.1441	41.179	.585	.842
C2	32.2973	41.774	.545	.846
C3	31.8018	42.833	.512	.848
C4	32.0000	41.491	.605	.841
C5	32.0991	40.472	.598	.841
C6	31.9009	41.345	.579	.843
C7	32.0000	40.491	.569	.844
C8	31.5856	41.809	.599	.841
C9	31.8829	41.850	.552	.845
C10	32.0721	41.886	.500	.850