# Students' Perceptions of the AI Technology Application in English Writing Classes

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## ABSTRACT

With the rapid advancement of information technology, numerous cutting-edge techniques and technologies have been developed to improve learning generally and English learning specifically. The utilization of artificial intelligence (AI) technology in teaching and learning at universities is an inevitable trend in the Industry 4.0 era. This paper aims to investigate students' perceptions of AI technology application in English writing classes. 100 students from four General English classes at Vietnam National University (VNU) took part in this study. To achieve the research purpose, I combined quantitative and qualitative research methods through questionnaires and in-depth interviews. The findings of the study indicate that students' attitudes regarding AI writing tools were favourable in terms of their accessibility, adaptability, and simplicity. However, some challenges are unavoidable when employing these tools, resulting from factors like learners' technology anxiety and lack of tool variety. I hope this research serves as a valuable resource for teachers looking to diversify their teaching methods and encourages students to enhance their interest and motivation in using AI tools for English learning.

## Introduction

The industrial revolution 4.0 is transforming the world, and it is inevitable that education in general and foreign language learning in particular are also deeply affected by these changes. Schools and training institutions must promote the application of modern technology to make radical changes in teaching and learning methods. One of the most mentioned technologies in recent years, contributing to creating strong breakthroughs and bringing about "miracle" results is Artificial Intelligence (AI). The term "Artificial Intelligence" was first used in reference to a scientific idea by J. McCarthy. AI research is used to develop systems and devices that imitate learning and mental processing activities, as well as to precisely explain parts of intellectual processing and learning (to acquire knowledge) (McCarthy et al., 1955). According to Russell

and Norvig (2016), AI is an interdisciplinary field of philosophy, psychology, neuroscience, mathematics, cybernetics, science computers, linguistics, and economics. In the upcoming years, AI will be one of the "levers" that will help IT advance and become more pervasive in daily life.

Currently, AI is becoming a trend in education in general, foreign languages in particular, especially English. According to education experts (Woolf, et al., 2013; Kurshan, 2016), with the support of AI, learning English will become an exciting and active experience, because each student will have a "native teacher" who always accompanies and helps in correct listening and speaking practice, grading, correcting errors and giving personalized exercises according to each person's level. AI helps control the quality of students' learning and training through big data systems, helping students look up and track their progress every day. When researching new trends and challenges from AI for foreign language teaching and learning, Desmet (2006) specifically pointed out 7 development trends, in which the exploitation of digital resources related to four skills (listening, speaking, reading and writing) are the first trends listed and popular in the foreign language teaching environment, not only in those with a well-developed educational background, but also in somewhat less developed countries, such as in Vietnam. Therefore, the current trend is the use of AI in education, particularly in the teaching and learning of English.

Of the four English skills, the fundamental skill for lifelong learning is writing (UNESCO, 2017). Peter and Singaravelu (2020) also stated that writing is a tool for self-expression, communication, information interpretation, recording experiences, and effective learning. In the meantime, teaching and learning have both benefited from the usage of AI technology, particularly in writing courses. AI could enhance learners' writing abilities (Mediyawati et al., 2021), increase writing quality (Fitria, 2021), motivate learning participation (Gayed et al., 2022), and promote learning outcomes (Ng et al., 2022). From these studies, the use of AI in English writing classes is becoming increasingly widespread, and while integrating this technology, it is crucial to investigate how the students will react to it. According to Köse and Arslan (2015), learners' approval has been demonstrated to be a crucial sign of the effectiveness of integrating technology to boost performance. Learning performance may be enhanced when the learners could accept using the technology. Thus, understanding how students view the use of technology in their education is one method to gauge their acceptance.

In Vietnam, numerous studies in the context of EFL classrooms have demonstrated the significance of students' views in the integration of technology, but relatively few have done so for AI technology in writing. Given that AI technology is beginning to saturate EFL classrooms and that integrating technology takes into account students' perceptions, this study was conducted to investigate how EFL students at Vietnam National University (VNU) perceive about using AI technology in their writing classes.

## Literature review

### *Review of Studies on the Students' Perceptions of AI Technology Application in International Settings*

Numerous studies highlighted the virtues of AI in language acquisition as it brings the promise of personalized learning. In the very early studies, the ability of AI technology to interpret student language input, assess students' grammar, and provide complex feedback has been demonstrated (Bailin, 1987; Holland et al., 1993; Nagata, 1996). More recent research demonstrates that AI has more potential, along with advancements in computer technology. For instance, it has been discovered that using AI in language schools has the following advantages for the students. Lu (2018) claimed that AI can provide meaningful conversations. Besides, AI can be helpful in collaborative positions (Tafazoli et al., 2019). In terms of EFL benefits, speaking performance and reading comprehension can be enhanced by AI applications (El Shazly, 2020; Yin et al., 2021). Furthermore, Bailey et al. (2021) also confirmed that using AL tools in EFL classes can increase students' motivation and inspiration. The study of Sumakul et al. (2022) showed that all teachers reported favorable opinions on using AI in the classroom. The teachers concurred that AI may aid in teaching and student learning. Similarly, Alhalangy and AbdAlgane (2023) also reported that AI positively impacts the field of English language teaching (ELT) and learning.

Regarding writing skills alone, some studies also show the benefits of AI to learners. Focusing on Google Translate, Naver Papago, and Grammarly, the study of Kim and Han (2021) showed that all these tools aided students in learning English writing. Specially, learning vocabulary, grammar, and sentence structure with GT/NP was really beneficial. Similarly, another study of Sumakul et al. (2022) indicated that the students' attitudes on using the AI app were favorable. The lessons were enjoyable for the pupils, and the AI app aided them in their writing. More specifically, Utami et al. (2023) mentioned three advantages of AI utilization in an academic writing class in Indonesia: (1) AI-based learning tools aid students in academic research planning, topic development, and paper draft development; (2) AI-based learning tools are flexible, accessible; (3) Students seek AI technology in academic writing for engaging learning.

Nevertheless, despite these encouraging results, some research has produced conflicting conclusions. The optimistic views of AI in language studies were criticized as being exaggerated and misunderstood in its early stages (Last, 1989; O'Brien, 1993). In more recent studies, AI is not a reliable tool for learning, according to Gallacher et al. (2018), and the language it generates is frequently inappropriate and unnatural (Pace-Sigge & Sumakul, 2021), as well as decontextualized (Wilson et al., 2021). The limited pedagogical design of the AI apps or the teachers' insufficient pedagogical understanding may be the root of the problems with the implementation of AI in the classroom, according to Rieland (2017) and Zawacki-Richter (2019). Although technology has been shown to aid language learners, Kukulska-Hulme and Lee (2020) note that little is known about teachers' responsibilities in implementing it in the classrooms. Besides, the data that is currently available indicates that there are significant issues with incorporating chatbot technology into teaching. The personal information of students, including their names, email addresses, and academic records, can be collected by chatbots (Liden & Nilros, 2020). As a result, users' concerns about security and privacy significantly

impact their desire to use chatbots in the classroom (Shumanov & Johnson, 2021). In addition, Cassidy (2023) has frequently brought up concerns regarding the possibility of cheating by using ChatGPT, which could have a negative impact on evaluations.

Concerning some disadvantages of AI application with writing skills in particular, besides giving the above undeniable benefits, the authors also mentioned some drawbacks that need to be taken into consideration. According to Arnold and Ducate (2015), language teachers are still unable to fully utilize technology's pedagogical benefits. Moreover, Susanto and Yosephine (2019) discovered that the excessive time and effort needed might prevent teachers from utilizing technology to its full potential. Thus, Ding et al. (2019) argued that in order for teachers to see how technology might improve their classrooms, it is necessary to support them. More specifically, Kim and Han (2021) pointed out that one of the weaknesses of Google Translate and Naver Papago is inaccurate translation and too frequent use of AI-based English writing learning tools may hinder students' ability to learn English or English writing. Besides, according to Sumakul et al. (2022), AI faces obstacles in available features, especially in Indonesian text editing, and optimization.

### *Review of Studies on the Students' Perceptions of AI Technology Application in Vietnam*

The application of AI technology in the classroom in the Vietnamese context has received moderate attention in the literature. Several studies in Vietnam also highlighted the benefits of applying AI in the EFL classroom. Action research of Tran and Nguyen (2021) was conducted to investigate the effects of technology-based communication on either students' writing performances or their views of the use of the new teaching approach. The findings demonstrated participants' positive views about technology-based communication and their increased self-assurance in line with positive attitudes toward writing classes as a result of their awareness of how these lessons encourage critical thinking and error-finding (Tran & Nguyen, 2021). Besides, according to Nguyen and Nguyen (2022), many essential tools, including word processing and computer-based activities, have been used to help students produce high-quality writings as a result of technological advancement. Phan and Chen (2020) investigated how a group of engineering students at a university in Southern Vietnam utilized Google Translate to acquire TOEIC. The results demonstrated that GT provided a variety of advantages, including its quick speed and user-friendly interface, which pleased its users. According to Tran and Dinh (2021), AI will significantly improve general and higher education by reducing administrative procedures, automating tasks like grading papers and attendance, personalizing curriculums, and introducing virtual tutors/assistants. AI also creates excitement for learners with real-time informational feedback, increasing interaction time and providing immediate support (Tran & Dinh, 2021). Vo (2022) investigated the tools that have AI application in teaching English writing and claimed that the application of information technology and AI in teaching and learning English is indispensable, especially in teaching and learning English. More specifically, studying the use of ChatGPT in writing classes, Nguyen (2023) stated that ChatGPT provides students with diverse educational materials, aiding in learning and developing ideas for writing assignments. It also provides standardized examples, enabling students to analyze and produce well-structured pieces.

Besides some benefits, the AI negative effects on teaching and learning writing also received

moderate attention from Vietnamese scholars. Phan and Chen (2020) also admitted that some AI tools like Google Translate significant shortcomings that needed to be fixed to meet the needs of language users. Complex and specialized word translations are challenging for GT application. In addition, participants were frequently dissatisfied by the meaning and context of translated terms. Post-editing or alteration was necessary to improve the translation quality (Phan & Chen, 2020). The study of Tran and Dinh (2021) also mentioned some challenges in implementing AI in education, highlighting that technology and AI are tools for supporting human elements. Improvements in policies, fairness, and uniformity are needed, along with teacher capacity building for AI implementation. Nguyen (2023) also mentioned some potential concerns over the use of ChatGPT in writing lessons. Students over-rely on ChatGPT responses, potentially compromising critical thinking and problem-solving abilities. Moreover, the author underlined that because ChatGPT may produce samples of standardized writing, students may copy these written products, leading to biased grading in writing classes (Nguyen, 2023).

### Research Gap and Research Questions

Through the review of the above studies, it can be seen that although the AI technology application in EFL classes is a topic of great interest in the world, in Vietnam, the number of studies on this topic is not much, especially in the context of the English Writing class. Therefore, it is important to have a study on the perceptions of students at VNU about applying AI to support writing skills. The purpose of the study could be achieved by answering two research questions:

1. What are the advantages of AI technology application in English writing classes?

2. What difficulties did students encounter when applying AI technology in English writing classes?

## Methods

### Pedagogical Setting & Participants

100 students from four General English classes at VNU took part in this study. These are the courses that I was assigned to directly teach in the 2022–2023 academic year. The learning objectives for these English sessions are at the B1 level (equivalent to Level 3 according to the 6-level Foreign Language Competency Framework).

In the General English course, writing skill is taught in each session along with other skills. During writing class, some AI technology applications were used to support writing skills mainly including Grammarly (to detect grammar and spelling errors), Google Translate (to offer suggestions on expressions), and Paraphrasing Tool (to diversify expressions and make passages easier to understand).

### Data Collection & Analysis

For the quantitative phase, I used a questionnaire to investigate the benefits and drawbacks of AI-based learning tools in English writing classes (Appendix 1). The questionnaire is a suitable tool to measure several independent variables, including facts, preferences, and behaviors

(Kabir, 2016). In this study, the questionnaire items were adapted from the criteria and questionnaire of Utami et al. (2023). The questionnaire has two main parts, based on two research questions. Part 1 contains 10 statements about the benefits of AI-based learning tools with writing skills. Part 2 focuses on exploiting the disadvantages when students use AI-based learning tools in writing class. In this section, I divided it into main groups: factors related to AI-based learning tools and factors related to learners themselves. In both sections, the question format is a 5-point Likert scale (strongly disagree, disagree, neutral, agree, strongly agree) to elicit the participants' opinions.

For the qualitative phase, the interview method was used to clarify the data gathered from the questionnaire during the qualitative phase, resulting in more accurate and real data for the study (Appendix 2). With the intention of gathering additional information that students have not clarified in the questionnaire, I divided the 10 questions in the interview based on the subject. Specifically, the first four interview questions outlined some of the advantages students received from using AI technology. Then, students were required to describe some of the challenges they encountered when using AI technology in the following four sentences. For the last two questions, I wanted to investigate how students viewed the potential applications of AI technology as well as their ideas on how to employ it most effectively. Through purposive sampling, 20 students were selected for interviews (5 students per class). The goal is to select the most diverse group possible based on the questionnaire results from the quantitative phase to collect a range of information about students' different perspectives and experiences on using AI technology in writing classes. I gave the students the option of using Vietnamese in the interviews so they could more readily grasp the questions and communicate their thoughts.

## Results/Findings and Discussion

*Research Question 1: What are the advantages of AI technology application in English writing classes?*

To investigate the benefits of AI-based learning tools in supporting writing, I used a questionnaire combined with students' opinions from interviews. The results obtained from the survey are presented in Table 1.

The Table 1 shows that all students recognized the importance of AI-based learning tools in enhancing their writing abilities and improving the quality of their writing (M=4.28 & 4.19, respectively). Majority of students agreed that AI-based learning tools helped them achieve their learning goals (M=3.92). This is not difficult to explain, because even the generations born as early as the late 1980s were those born in the cradle of IT and the Internet (Enochsson & Rizza, 2009), so for the current generation, the use of IT is an integral part of their daily life. Accordingly, all students (M=4.13) used AI-based learning tools to enrich their vocabulary and grammar during their writing.

Table 1.

Advantages of AI technology applications

| Advantages of AI technology applications | Mean | Median | Mode |
|---|---|---|---|
| 1. AI-based learning tools enhance learners' writing abilities. | 4.28 | 4 | 4 |
| 2. AI-based learning tools aid learners to get learning objectives. | 3.92 | 4 | 4 |
| 3. AI-based learning tools can enrich both vocabulary and grammar. | 4.13 | 4 | 4 |
| 4. AI-based learning tools improve the quality of writing. | 4.19 | 4 | 4 |
| 5. AI-based learning tools are accessible. | 4.83 | 5 | 5 |
| 6. AI-based learning tools have a friendly interface for users. | 4.79 | 5 | 5 |
| 7. AI-based learning tools are adaptable. | 4.69 | 5 | 5 |
| 8. AI-based learning tools have various features. | 2.75 | 3 | 3 |
| 9. AI-based learning tools make learners more engaged in learning. | 3.52 | 3 | 3 |
| 10. AI-based learning tools increase learners' interest. | 3.76 | 4 | 4 |

In interviews, all students confirmed these benefits. Some students shared:

> I think apps have helped with writing a lot. Sometimes I have an idea but don't know how to express it, so I can use Google Translate to help. In addition, Grammarly helps me check basic grammar and vocabulary errors in the lesson. (S1)
> When writing articles, I often get repetitive expressions and structures. At that time, I used the Paraphrasing Tool application to help me get more suggestions on using other structures and vocabulary but with the same meaning. (S2)

The fields of English language teaching (ELT) in general and writing in particular are favourably impacted by AI, according to Alhalangy and AbdAlgane (2023). Besides, in the study of Utami et al. (2023), the majority of participants (86%) agreed that using AI-based learning tools improves their writing performance. The result is also in line with the finding of Kim and Han (2021) when these authors claimed that Google Translate was very beneficial in acquiring vocabulary, grammar, and sentence structure and Grammarly was quite useful in identifying and correcting problems.

Regarding some features of AI-based learning tools, their accessibility, adaptability, and simplicity were all highly appreciated by students. This is also the group with the highest mean score in the survey (M>4.5). Students explained these points more clearly in the interview. One benefit highlighted by all the interviewers is that these tools are freely available online, so anyone can use them at all times. In terms of the Grammarly tool, one student shared that: "*The Grammarly tool is simple to use and features are user-friendly. Another benefit of this tool is its speedy detection of grammatical and spelling mistakes, which may be used to recommend improvements*" (S3). With Paraphrasing tool, another student emphasized some of its beneficial features: "*The website of the Paraphrasing tool is free. Users can use it right away without installing software. Tools help learners understand faster, teach words effectively, and build better vocabulary*" (S4). Additionally, students had a lot of experience using Google Translate (GT) for writing exercises. The swift speed, which saves a lot of time, is the most significant factor for the group of students interviewed. One student shared that, "*I typed unfamiliar English terms into the GT box, and their definitions would show up. To find words I didn't understand, I used GT*" (S5). Some students used GT to do other assignments in addition to

translating. One student claimed that GT enabled him to check the spelling of English words. "*I have to choose the right term to fill in the blanks for some exercises, like gap-filling, Sometimes GT helps me seek for the correct spelling if I believe a term has a spelling error*" (S6), he explained. These findings are supported by a variety of studies in the world such as Jaganathan et al. (2014), Chandra and Yuyun (2018), Kol et al. (2018). Medvedev (2016) also found that Omani students in an English Foundation Program preferred GT because it is free to use, practical, and simple to use. Besides, these results are reported by a number of Vietnamese and foreign authors. According to Vo (2022), the free online grammar checker Grammarly aids authors in word counts, spelling checks, grammar and punctuation checks, expression checks, word choice improvements, self-evaluations of goal structure usage, and English pronunciation checks. Besides, in the study of Utami et al. (2023), the general accessibility rating was 4.09 out of 5. The majority of participants reported that using learning tools with AI was not challenging for them. This is related to the general state of most knowledgeable individuals about information technology and how to use it (Utami et al., 2023).

In terms of students' motivation and interest, most students also agreed that AI-based learning tools make learners more engaged and interested in learning (M>3.5). In the interview, one student admitted, "*I did feel happy with these tools. When I received assistance with digital tools, I felt more imaginative and self-assured. I also like it because I was able to do it more quickly*" (S7). In addition, with AI-based learning tools, the participants were eager to learn. The majority of participants in the interview expressed excitement about gaining new experiences while using the learning tools. The participants then perceived that by reducing their writing challenges, adopting AI-based learning tools helped them meet their needs. The excitement of students when learning with AI-based tools was explained in the research of Tran and Dinh (2021) when the authors revealed that students were excited by some factors from AI such as real-time informational feedback, longer contact times, and prompt assistance.

From the results obtained from the survey, students had a good understanding of the role of AI-based learning tools in their writing learning process and a positive attitude towards many features of AI tools, which brought them undeniable benefits. However, it can be seen that there are still factors that did not gain a very high mean score, such as the diversity of AI-based learning tools (M=2.75). Therefore, in addition to the aforementioned advantages, it is also important to understand students' challenges while utilizing these programs during writing courses. The following section contains this information.

*Research Question 2: What difficulties did students encounter when applying AI technology in English writing classes?*

To learn about some disadvantages of AI-based learning tools, part 2 of the survey was divided into two factors: objective (factors related to tools) and subjective (factors related to learners). Table 2 below illustrates the part 2 of questionnaire results.

Table 2.

Disadvantages of AI technology applications

| Factors related to AI-based learning tools | Mean | Median | Mode |
|---|---|---|---|
| **Grammarly** | | | |
| 1. Learners only view suggestions for fixing mistakes, not usage details. | 3.54 | 4 | 4 |
| 2. Websites with just one input form can be monotonous and boring. | 4 | 4 | 4 |
| **Paraphrasing Tool** | | | |
| 3. This tool has limited suggestions for synonyms. | 2.93 | 3 | 3 |
| 4. Paraphrasing long paragraphs is not always accurate. | 4.24 | 4 | 4 |
| **Google Translate** | | | |
| 5. The quality of the translation is not reliable. | 4.26 | 4 | 4 |
| 6. GT is culturally insensitive, making the translation unnatural. | 4.22 | 4 | 4 |
| **Factors related to learners** | | | |
| 7. Learners are too dependent on tools when writing. | 4.25 | 4 | 4 |
| 8. Learners have problems connecting to the Internet when using tools. | 3.03 | 3 | 2 |
| 9. Learners fear lack of digital knowledge to use the tool. | 2.94 | 3 | 2 |
| 10. Learners feel unmotivated to use AI-based tools when writing. | 2.35 | 2 | 2 |

Table 2 shows that students' difficulties might come from both objective and subjective factors.

First, in terms of objective factors related to AI-based learning tools, all participants believed that each instrument has drawbacks. Students all agreed that the single-input form of the Grammarly website might be repetitive and uninteresting (M=4). This result is quite consistent with the rather low mean score of statement 8 in part 1 mentioned above. This disadvantage of Grammarly was also reported in the study of Vo (2022). This is also a suggestion for teachers to pay attention to flexibly applying a variety of applications to make students' writing activities more interesting. In addition, the main drawback of the Paraphrasing tool is that it sometimes fails to paraphrase lengthy passages (M=4.24) accurately. This finding aligns with the study of Vo (2022) and Sumakul et al. (2022). Google Translate seems to be the application with more disadvantages than the other two applications.

The translation quality of Google Translate is not always accurate (M=4.26). This was explained more clearly by the students in the interview. One student said: "*I only use Google Translate to translate short sentences. If the sentence is too long, the accuracy of the sentence will not be high*" (S8). Besides, Google Translate is culturally insensitive, making the translation unnatural (M=4.22). All participants expressed dissatisfaction with the accuracy of translated specialized terminologies, unusual structures, and difficult grammatical elements. One student, for instance, stated, "*GT does a wonderful job of bringing the source texts' common meanings together. However, occasionally the meaning of the translated Vietnamese grammatical structures was strange, so I couldn't grasp them*" (S9). The inability of GT to give context appropriateness for translated texts was another prevalent restriction that was brought up by every participant. They expressed their dissatisfaction: "*The translated language is inappropriate for statistical language. Reading the outcome made me angry since the words did not make sense in the situation*" (S10) and another student shared that, "*When dealing with lengthy sentences or intricate portions, GT frequently makes context-dependent mistakes*"

(S11). Phan and Chen (2020) and Kim and Han (2021) reported these weaknesses of Google Translate. Accordingly, the use of GT to complex and specialized word translations is difficult. Participants were usually unhappy with the translations' context and meaning as well (Phan & Chen, 2020).

Second, as regards subjective factors related to learners themselves, the biggest challenge belongs to the fact that students become too dependent on AI-based tools when writing (M=4.25). In fact, nowadays, students invest less in writing; or rather go easy on writing practice. With a problem when encountering a word, an idiom they do not understand, they feel uncomfortable and have to find a way to find out the meaning immediately (with a dictionary on the phone or online) without reading carefully and guessing the meaning of new words by themselves in a specific context of the problem. This problem was also mentioned in some studies of Kim and Han (2021), Nguyen (2023). Accordingly, the capacity of students to learn English or English writing may be hampered by the overuse of AI-based English writing learning aids. This problem was confirmed in the interviews with students. One student shared that:

> I feel a bit lazy to think. Instead of searching for ideas, having references to articles on the same topic, searching for language elements/behaviors that are appropriate for my level, I just need to copy/paste and enter; then I will have a quick translation from Vietnamese or English. (S12)

However, it is good that some students recognized this dependence. One student said that with this way of learning, students are unlikely to be able to build and accumulate language capital and even less able to analyze language accurately because they do not know how to detect errors in translation. Another student claimed that relying on support tools could cause students to only deal with assignments, not actually learning to gain knowledge. Having such a tool available, time is no longer a concern for students to complete assignments by the deadline. Teachers need to warn students of the consequences if they overuse and depend on AI-based tools. This is very important because many learners are not aware of the negative side of the problem.

Other difficulties related to Internet access, digital knowledge or motivation did not gain high ratings of mean scores (M<3.5). One student stated that, "*Nowadays, we have access to information technology quite early, so accessing these tools is quite easy*" (S13). Students felt inspired when AI technology was applied in writing lessons, so most disagreed with statement 10. One student claimed that, "*AI technology makes the activities in our writing class quite diverse and interesting. If you learn to write in the traditional way, class time will be quite sleepy and boring*" (S14). This is in full agreement with the results obtained above about the undeniable benefits of AI-based learning tools in terms of accessibility, simplicity, and flexibility. This result is also consistent with the study of (Utami et al., 2023) in which the majority of participants reported that using learning tools with AI was not challenging for them.

## Limitations and Implications

Despite my best attempts to assess the data analysis, the study, within its scope, has a number of unavoidable limitations. It was not possible to poll every student enrolled in B1 classes at VNU due to scheduling constraints. Only B1 students I directly instructed were chosen to participate in the study. In addition, this study mainly focused on three AI tools utilized in my classes (Grammarly, Google Translate, and Paraphrasing tools), despite the wide range of AI technology applications in writing. I tried to involve every student in my class in completing the surveys to offset the drawback of participant numbers somewhat. I also carefully examined the interviewers' responses in order to gather a range of viewpoints from the students. If more time is given for research, I want to conduct a sizable survey with more willing and representative participants and more diverse AI writing tools in order to acquire more reliable and accurate findings.

This study shows that technology in general and AI in particular should only be used to supplement, not entirely replace, the role of humans in education. I suggest that there should be cooperation and agreement between teachers and students to utilize the potential of this technology effectively. AI technology can help teachers with lesson planning, course preparation, and student question responses. However, it is crucial for educators to be aware of the limitations of AI technology and not to rely on it exclusively. They should alter the knowledge supplied by AI technology, use it as a supporting tool, and critically assess it. For students, AI technology can help with information retrieval, addressing inquiries, and assisting with the creation of papers and theses. Students should comprehend or think creatively about the information from AI technology. They should become more capable of independent information analysis and critical thinking.

## Conclusion

This study was conducted to investigate the perceptions of 100 students at VNU about the application of AI-based learning tools in English writing classes. Research results show that students had a positive attitude about the role of AI-based applications in their writing-learning process. Undeniably, AI tools with outstanding accessibility, adaptability, and simplicity have greatly supported learners in the writing process. Thanks to these apps, students can enhance their writing abilities, enrich their grammar and vocabulary, leading to better quality of writing, and get their learning objectives. Another highlight is the fact that AI creates excitement and motivation for learners with real-time informational feedback. Thus, learners will increase their interaction time with the system due to the feeling of immediate and enthusiastic support. Undoubtedly, the application of AI will need to be extensively encouraged for education in general and higher education in the near future due to AI's benefits.

However, the article also pointed out some major difficulties and challenges when applying AI in education. According to the research findings, subjective and objective factors contribute to difficulties deploying AI-based learning systems. Regarding the objective aspect of AI-based learning aids, several notable drawbacks, such as inaccurate application recommendations or repetitive website input formats, might make students feel uninterested and bored. Additionally,

it would be impossible to ignore the issues brought on by the students themselves. In other words, learners who rely too much on supporting tools become lazy, incapable of acquiring linguistic knowledge, and even less able to interpret language effectively.

The findings from this study demonstrate that while developing AI in education on the basis of in-depth research on education, it is vital to strengthen policies, maintain fairness, and assure consistency. Along with that is the capacity building of teachers to be able to apply AI in education. I hope my research serves as a crucial foundation, laying the groundwork for future study and development to rigorously and efficiently build the right models and approaches for implementing AI in academic instruction rigorously and efficiently.

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## Biodata

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## Appendix 1 – Questionnaire

### *Students' Perceptions of the AI Technology Application*
### *in English Writing Classes*

*Hi, everybody. I would like to ask for your help with this questionnaire, which serves as my paper's major source of data. Thank you very much for your help!*

### *Circle the number that best describes your choice.*

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

### *Part 1: Advantages of AI technology applications*

| Advantages of AI technology applications | Likert Scale |
|---|---|
| 1. AI-based learning tools enhance learners' writing abilities. | 1 2 3 4 5 |
| 2. AI-based learning tools aid learners to get learning objectives. | 1 2 3 4 5 |
| 3. AI-based learning tools can enrich both vocabulary and grammar. | 1 2 3 4 5 |
| 4. AI-based learning tools improve the quality of writing. | 1 2 3 4 5 |
| 5. AI-based learning tools are accessible. | 1 2 3 4 5 |
| 6. AI-based learning tools have a friendly interface for users. | 1 2 3 4 5 |
| 7. AI-based learning tools are adaptable. | 1 2 3 4 5 |
| 8. AI-based learning tools have various features. | 1 2 3 4 5 |
| 9. AI-based learning tools make learners more engaged in learning. | 1 2 3 4 5 |
| 10. AI-based learning tools increase learners' interest. | 1 2 3 4 5 |

### *Part 2: Disadvantages of AI technology applications*

| Factors related to Al-based learning tools | Likert Scale |
|---|---|
| **Grammarly** | |
| 1. Learners only view suggestions for fixing mistakes, not usage details. | 1 2 3 4 5 |
| 2. Websites with just one input form can be monotonous and boring. | 1 2 3 4 5 |
| **Paraphrasing Tool** | |
| 3. This tool has limited suggestions for synonyms. | 1 2 3 4 5 |
| 4. Paraphrasing long paragraphs is not always accurate. | 1 2 3 4 5 |
| **Google Translate** | |
| 5. The quality of the translation is not reliable. | 1 2 3 4 5 |
| 6. GT is culturally insensitive, making the translation unnatural. | 1 2 3 4 5 |
| **Factors related to learners** | |
| 7. Learners are too dependent on tools when writing. | 1 2 3 4 5 |
| 8. Learners have problems connecting to the Internet when using tools. | 1 2 3 4 5 |
| 9. Learners fear lack of digital knowledge to use the tool. | 1 2 3 4 5 |
| 10. Learners feel unmotivated to use Al-based tools when writing. | 1 2 3 4 5 |

## Appendix 2 – Suggested Reflection Questions

1. Please briefly describe some of AI applications used in English writing classes.
2. What is the most popular AI applications used in English writing classes?
3. In what ways do you think the AI applications can benefit English writing learning?
4. Among these benefits, which is the best aspect in your opinion?
5. What challenges or difficulties have you encountered in using AI applications?
6. Among these difficulties, which is the most challenging aspect?
7. Do you think you are more affected by objective or subjective difficulties? Why?
8. What did you do to overcome them?
9. Do you think AI technology applications will be more popular in the future?
10. What would you suggest to use AI applications more effectively?