

The Effects of Integrating Artificial Intelligence into Learning Academic Vocabulary Among Masters in English Studies Students

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ABSTRACT

Keywords: AI; Artificial intelligence; academic vocabulary; using AI to learn academic vocabulary

Artificial intelligence (AI) adaptation in education has been increasing recently. Therefore, multiple studies have been conducted on its potential benefits and usage in education. Moreover, the need to acquire academic vocabulary for students in the English Language to serve their academic goals also received multiple attention. However, few research studies mention the effectiveness of using AI to learn academic vocabulary among graduate students. The research aimed to bridge the gap by examining AI's effects on the academic vocabulary acquisition of students studying for a master's degree in English studies and to what extent it is used. This brings light to the differences AI creates in the students' learning process. Qualitative data were collected in the form of questionnaires given to the Master's program students in the Faculty of Foreign Languages at Van Lang University. The questions centered around using AI tools to learn academic vocabulary.

Introduction

Nowadays, in terms of EFL (English as a Foreign Language) learning, developing academic vocabulary, is considered as one of the important factors for students on English for Academic Purposes (Xodabande & Atai, 2022). Regardless of various definitions of academic words, based on their usage in scientific and academic contexts, it is suggested that academic vocabulary facilitates a new or deep understanding of content related to the core of curriculum areas and communicates that understanding to others (Gottlieb et al., 2006, as cited Kamola, 2023). More than that, most EFL researchers and students are encouraged to get exposure to the scientific writings of various writers (Flowerdew, 2015; Martínez et al., 2009; Valipouri & Nassaji, 2013, as cited in Xodabande & Atai, 2022) to gain more knowledge and insights to

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conduct their own research thesis and publish their works in international Journals of English Language. That said, the students are required to know and be able to use the academic lexis that are suitable in scientific communities.

With regards to Artificial Intelligence (AI), in this day and age, it is destined to become the most used and optimal tool that facilitates human work and needs for information searching. Now, as time passes, the fact that the scope and functionality of this tool covers a wide broad of aspects, it is now being utilized in the majority of classroom activities by English - majored students of different academic levels and is inarguably being used as a powerful and important tool in education (Dewi et al.,2021). This also suggested that, in the classroom environment, students must also utilize AI to effectively participate in learning or to perform academic-related works (Kamola, 2023), hence proving the value of learning academic words in the university as well as raising a need to adapt the AI tool as a mean that supports the learning process. With that being said, English-majored students and researchers in most institutions nowadays have started adapting and making use of AI as a helper to facilitate their learning of academic words in the EFL context.

However, the problem with regard to language learning is that nowadays, the lack of lexical resources, mostly of academic words, has been one of the language barriers to establishing scientific participation in the research world as the results of comprehension difficulty in terms of reading and writing in English (Bazerman et al., 2012, as cited in Xodabande & Atai, 2022). However, in terms of AI adaptation to facilitate learning, the use of AI caused confusion and various judgments on whether to adapt it to education (Hong, 2023) and the worries of whether the use of AI tools is a form of academic dishonesty and further, in terms of learning academic vocabulary for English-majored graduate students in EFL context, the popular use of AI and its associated tools such as ChatGPT, Bing Chat, etc. received multiple disputes and controversies across multiple institutions and practitioners.

This paper aims to provide analytical and in-depth detail of artificial intelligence's ability to contribute to learning academic words that are essential to Master of Arts in English Language Studies students. The study also aims to analyze the level of integration of AI tools in learners' academic word acquisition and to what extent it should be used in an academic context.

Literature review

The background of AI and its usage in the classroom

Since the rise and adaptation of AI in education, researchers have been aware of its considerable impact. The following pieces of literature described AI and studied it in the classroom setting to understand the perception of it being used. Along this line, researchers have looked into the ethical value of ChatGPT, the accuracy of its responses, and the cultural bias associated with teaching and learning Kohnke, Moorhouse, & Zou, (2023) to raise the need for AI competency and address the flexibility and significances of ChatGPT in language learning and show how

learners and teachers can harness AI to provide more research opportunities and tailored learning experience Hong (2023) by discussing the structures, functions, and controversies around ChatGPT associated with its issues and risks in using it.

Another study aims to examine the feature of the mobile learning app 'Formative' in engaging students in active learning and analyze the learners' perceptions of learning more actively through mobile devices Cabrera-Solano, Quinonez-Beltran, Paul Gonzalez-Torres & Castillo-Cuesta, (2020). The study found that motivation, engagement, participation, dynamic work, and anxiety reduction allowed students to be active in learning and that the mobile app allowed them to be involved in class activities. Similar in terms of findings, the study of Ayala-Pazmiño & Alvarado-Lucas (2023) shows that AI can provide better learning experiences and improve student learning, engagement, and quality of assessments also mentioned in the work; the challenges are raised to support the need for training and support. Another work by Nguyen (2023) provided insight into teachers' perceptions of the use of ChatGPT in the writing classroom; further discussion of the work complements the idea of teacher training to be aware of the limitations and possible defects for suitable usage.

The effects of AI on student learning of English

In terms of showing if Artificial Intelligence contributed to developing students' English proficiency, several papers have been conducted to understand which aspects of language knowledge and skill can benefit. Dewi, Rahim, Putri, Wardani, and Pandin (2021) conducted a qualitative method with library study and review to analyze AI platforms that give knowledge and assess scores. The results showed that AI-integrated applications, websites, and other learning and teaching systems can be used to develop various English skills for students.

In the same vein, Kieu et al. (2021) approached the topic by analyzing the positive effects of using technology in English skills learning. The study used questionnaires and interviews to form a survey. The study found that learners often use educational apps, smartphones, and tablets, which help the 4 English skills greatly improve.

Apart from language skills, Sharma's (2023) study's results indicated that AI-based platforms allow students to learn and improve English skills, including vocabulary, listening, interpretation, and speech skills, as well as substantially impact language learning. In order to reach a conclusion on the effectiveness, the researchers used in-depth interviews constructed of open-ended questions and a literature study to gather insights. However, the work by (Alsadoon, 2021) focused on another representation of AI, that is, chatbot; in order to acquire information, tests are deployed to understand the effects of chatbot on the learning outcome. The results indicate that vocabulary learning tools like dictionaries are helpful and are used most frequently and that there is no notable difference in comparison to the translation tool; however, when it comes to the retention posttest, the results acquired from the use of chatbot are slightly positive compared to the dictionary.

Another linguistic aspect that also received much attention is vocabulary. One paper by Kol et al. (2018) involved preliminary work, and a case study found that students wrote significantly

more words and used a higher level of vocabulary when using Google Translate. One paper (Mahmud, 2023) used mixed quantitative and qualitative methods to learn if an application benefits student writing performance and to what extent. The results indicated that the use of the helping application had positive effects on students' work; also, by qualitative examination, the application's users made significant improvements in word resources.

Liu and Chen (2023) target English vocabulary learning to understand the effects of using AI-integrated translation applications. The findings indicate that AI-integrated applications present usefulness to vocabulary teaching and learning. A similar result is reached by Lei's (2022) experimental study to examine the extent of AI influences on foreign language vocabulary acquisition in the classroom. The researcher concluded that AI assistance is more advantageous than traditional methods and provides a long-term memory effect on word knowledge. A similar result is represented in the work of Ngo & Doan (2023), which presents the capability of mobile apps for students learning academic vocabulary and EFL vocabulary; the results are achieved through the observation of students' tests for vocabulary proficiency between an experimental group and a control group.

The role of Academic vocabulary

Other papers place the target on academic vocabulary, where they study the level of understanding and its role in education. Xodabande & Atai (2022) indicated that using mobile learning applications provides better acquisition of academic vocabulary and is effective for long-term interventions, the result is reached upon the effort to examine the adaptation of mobile applications in the self-study of academic vocabulary. Academic Lexi also received attention in reference to how it related to the marks they received from their works, and using academic vocabulary in their assignments is one of many aspects to consider in academic writing (Alhojailan, 2019).

Another paper conducted by Kamola (2023) investigated the existing theories and discussed the frameworks that help the author focus on delivering the teaching techniques and explain the importance of learning academic vocabulary to a variety of English learners. To achieve the goal, the researcher explained the term academic vocabulary based on different viewpoints and directly linked to how it is learned and taught.

Research Gaps

The previous studies provide the scientific background of AI and insights into its level of integration in education, its effects on multiple English aspects, and the current knowledge of this topic in the research world. However, the research coverage does not include the aspect of academic vocabulary that inspired this paper, even though they mentioned a wide range of effects that AI has on English learning and vocabulary acquisition, as well as the academic purposes when utilizing AI in education. Considering the literature review, few studies analyzed the impact it has in learning academic vocabulary for academic purposes of reading and publishing research articles in most EFL contexts as most English-majored students of different levels are encouraged in this day and age (Flowerdew, 2015; Martínez et al., 2009; Valipouri

& Nassaji, 2013, as cited in Xodabande & Atai, 2022), but most studies look into the effect of AI on the learning experience and quality as well as the potential benefits of integrating AI in the learning of English skills. Following that frame, most research looked into the benefits and challenges and suggested ways of choosing and developing the appropriate deployment of AI in the classroom, they stated the effects of AI in enhancing language knowledge and skills in undergraduate students, with few research studies focused on the comparison of graduate students' academic lexical resources based on their use of AI, regardless the fact that they have greater exposure to academic knowledge and possess a higher academic performance.

The need to bridge the gap of the unmentioned aspects inspired this paper to explore the unanswered effects. Firstly, the paper will look into the academic word acquisition of English-major students studying for a Master's degree, and whether the use of AI facilitates them in learning and if it should be used in the local teaching context as an educational tool; additionally, the author also conduct a detailed comparison of the effects AI has on the students. By that, the relationship between AI's functionality and the acquisition of academic words by Master's degree students is examined.

Research Questions

The following three research questions are raised according to the gaps in order to examine the use of AI in the learning of academic vocabulary for graduate students studying for a Master's degree in English Language Studies

1. Do AI and AI tools facilitate academic vocabulary learning for academic purposes in students studying for a Master of Arts in English Studies? If yes, to what extent do the teachers allow the students to incorporate AI into their study?
2. What are the differences in the academic vocabulary knowledge of learners who use AI and AI tools as learning sources and students who use AI and AI tools less?

Methods

Research design

The study focuses on the learners attending the Master's program of the Faculty of Foreign Language at Van Lang University. The author chose to conduct the research using a qualitative approach to explain the context by using a multitude of strategies through questionnaires and literature reviews (Dewi et al., 2021) and giving the author information on the feelings and thoughts of respondents in a comprehensible way that is relevant to the research questions Rubin and Rubin (1995, cited in Alhojailan, 2019).

In order to conduct the research, the author uses a written interview questionnaire. The questionnaires consist of 20 questions of two types: alternative and open-ended, targeting the two research questions and aiming to acquire in-depth experience of the respondents. In order to attain the goals, the first parts of the questionnaires, questions 1 to 6, are designed to get the

respondent's personal information for the demographic insights of their age, gender, and education. The second part of the written interview is separated into two segments, one from question 7 to 13 and the other from number 14 to number 15, in order to respectively answer the two halves of the first research question. The rest is dedicated to getting information in order to draw conclusions for the second research question.

Population of the study and sampling process

The population of the study involved 12 students now participating in the Master's program in pursuit of their Master's degree in English studies in the Faculty of Foreign at Van Lang University.

The graduate students in this program were selected because they best suit the aim of this study, which is to dig deeply into the effects AI has on learning academic vocabulary. As the learners of this program are involved in academic study, they are more likely to experience the intensive use of academic vocabulary, which makes it easier to reflect on the effects on their learning. For that reason, according to the author, they are believed to be suitable subjects.

As the author also participated in this program and believed it was best to study the students of Master's degree to match his goals, he chose the mixed method of purposive sampling and convenience sampling. He maintained his criteria for the subjects while using accessibility when the research was conducted in his own classroom. For that, he decided to follow the following process to conduct his written interview

Data collection

The researcher proceeded to collect the data from the questionnaires. He managed to provide the link to the online questionnaires to 12 learners in the Master's program in English Studies of the Faculty of Foreign at Van Lang University. He asked them to answer them electronically, and he received a total of 12 online written responses

Procedure

This research was conducted, and the responses were collected through an electronic questionnaire. The questionnaires included both alternative questions and open-ended questions. Questions 4-9 requested a single choice from a list of alternatives from 12 learners attending the Master's program of English Studies. The rest of the questions were written responses from the same population; they were designed so the participants could answer and share their experiences openly.

The questionnaires were created to elucidate the 2 research questions. After the researcher created the questions, he created an electronic questionnaire using Google Forms and gave the participants a direct link to the form. He then asked them to answer all the questions in every segment.

Data analysis

As soon as the author received the responses, he summarized the information based on the similarities and differences and categorized them to compare the opinions and insights from the respondents' experiences. Then the author analyzed the specific points drawn from each of the answers in the questionnaires for the discussion of the 2 research questions and summarized where necessary

Results/Findings

The demographic information of the respondents

Based on the answers provided by the participant, all 12 learners of one class in the course for the Master of Arts in English Studies who were asked about the effect of integrating AI into learning academic vocabulary in their learning program, are varied in terms of age, level of English proficiency and the years of teaching that they have. Firstly, all participants have heard and used AI, proving the population is suitable for the research interview. Consider the data: Eight of the respondents are aged 22 to 26, one of them is from 27 to 30, and the rest are above 30, which all are ideal age groups to start a Master's study and can learn to use AI. Regarding the English level of proficiency, four of the participants are at the upper intermediate level, another four of them are at the intermediate level, and for the C-level, three of them are at C1, and one is at C2 level, which is fully proficient. The data help to make sure the survey participants are capable of using AI independently and can self-study academic vocabulary in English, which facilitates the research on the effects of AI on the subject. Four respondents out of the population have no teaching background, while the rest have at least five months of teaching or more. Hence, some participants were able to provide a view on the integration of AI in teaching and learning from the teacher's perspective.

Research question 1

The first questions aimed to find out the effects that AI has and possibly influence the study of Master's students and to see to what degree it is being used in their learning and teaching. In order to reach the goals, the author of this paper conducted a series of 9 questions out of a total of 20 in a questionnaire, specifically aiming to draw a conclusion to the first research question. The first 7 questions of the 9 are designed to acquire the background information of the respondents' study process and subsequently study the effects it brings to the learners. The last two questions of the section aim to attain an in-depth study of the degree to which AI is being integrated and used in the study of the academic vocabulary of the Master's learners.

To easily understand the perception and experiences of each of the respondents with AI according to the aim of the first part of the questionnaires, the author decided to identify the interviewees as R1 for Respondent 1, R2 for Respondent 2, similar to R12 for Respondent 12, accordingly to the total of 12 respondents. Considering the 9 questions of the first section in the question list, question 1 aims to understand the academic purposes for which the learners use the Academic vocabulary the most. The result is that almost all Master learners in the population

(R1, R2, R3, R5, R7, R8, R9) all consider writing to be the aspect that they focus on solely, while R6 and R10 also focus on writing, but R6 also consider Listening and R10 consider Grammar being their second focusing aspect. On the other hand, R4 and R11 consider Speaking skills as their priority, and R12 considers using academic vocabulary for all 4 of the English skills. This pattern shows that writing is the skill out of 4 that needs to adapt to Academic vocabulary, mostly because their study involves a lot of reading and academic writing for scientific purposes. The data proves that it is necessary to learn academic vocabulary.

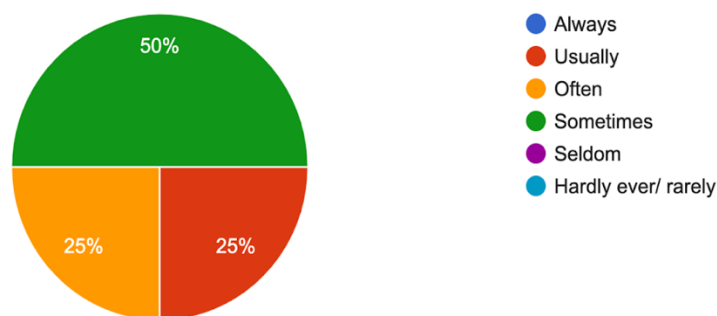
The second aim is to obtain information about the frequency with which the learners encounter academic vocabulary during the use of AI. The third question of the list helps examine the learners' perspective on those vocabulary words if they think they are used authentically and gives them genuine exposure.

Chart 1

The frequency of using academic vocabulary

How often do you come across new academic vocabulary when you are using AI during study?

12 câu trả lời



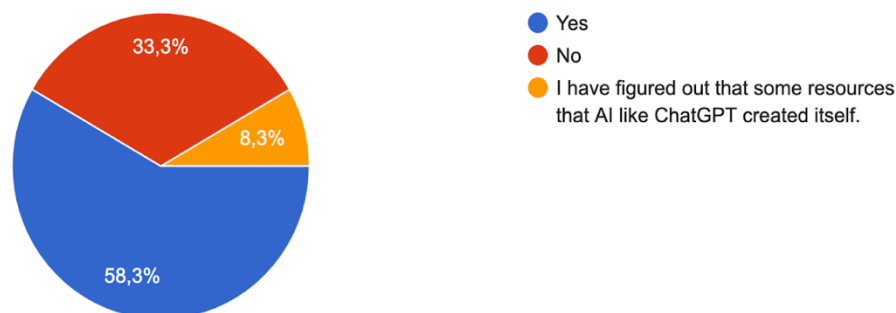
According to Chart 1, six respondents, occupying 50% of the population, stated that they sometimes notice the academic vocabulary being used by the AI, 3 people, equivalent to 25%, admit they often come across the words, and the rest said they usually experience the use of academic vocabulary by AI. The pattern indicates that AI generally uses academic words to respond to or maintain a conversation. This data shows that AI is likely to incorporate academic vocabulary and suggests that the conversation between AI and the respondents is most likely to involve academic words. It also means that AI can be a useful device that can be considered a source of learning academic vocabulary.

Chart 2

AI allows authentic exposure to academic vocabulary.

Do you think AI has allowed authentic exposure to academic vocabulary?

12 câu trả lời



The third question aims to acquire students' perspectives on whether AI allows authentic exposure to academic vocabulary and if it can facilitate their understanding of the words. Earlier, the students stated that they all come across academic vocabulary while using AI as indicated by the responses of the Masters learners. 58.3% of the population expressed the same points of view on this idea; they agreed that by using AI, they are able to have authentic exposure to the use of academic vocabulary and that AI can give them contact with the language knowledge they are trying to learn. On the other hand, only 33.3% stated that they don't see that what AI generates is considered authentic exposure. One respondent, occupying 8.3%, gave an idea different than the rest,

Respondent 4: I have discovered some resources AI, like ChatGPT, created.

This helps us understand that sometimes, AI platforms cannot be trusted with the exposures and that it does not ensure full authenticity. However, this is only a small number, which means in the case of using AI, there will be various levels of authenticity; however, it can be trusted the majority of the time by the majority of the people

In question 4, the author continues the examination of how AI has contributed to the learners' understanding of academic vocabulary based on the interviewees' experience using AI. Some learners were able to point out how the use of AI in the context of the conversation has helped them understand how it is used, hence understanding not just the meaning but how to use it.

Most of the respondent nine out of 12 respondents provided the insight and stated that they were able to observe how academic vocabulary is used in the context of the conversation with AI according to their responses; the others pointed out clearly the aspect of academic vocabulary used by AI that facilitates their understanding including its ability to provide synonym

suggestions and help expand vocabulary usage (R2), and how AI can be used to point out the mistake of the user (R4). Respondent 8 believed it was the ability of students to understand the vocabulary

Some learners are aware of the tendency to use vocabulary in their response or in an attempt to maintain a conversation; they particularly stated how the AI's vocabulary in the context of the response has helped them understand the meaningful use of the words. Other than that, some students decided to ask AI to explain and give synonyms of that academic vocabulary for references and to understand similar words. Another way AI can facilitate learners' understanding is by showing or correcting the users' mistakes. Correction allows the learners to be aware of the potential error or misunderstanding.

Moreover, question 5 is conducted in order to illustrate which way AI facilitated their academic performance, specifically in using academic vocabulary in assignments, in case they come across the words while using AI. In this sense, eight responses shared their experiences with AI, which helped them understand the words' difficult concepts. Other responses contributed to understanding AI's capacity, including its ability to determine errors and potentially correct them (R4) and learning and memorizing academic vocabulary for application to academic writing (R6, R10). That said, Respondent 8 provides a further application to both vocabulary and Grammar

The responses show that AI is mostly able to help students grasp new and difficult word concepts and improve their vocabulary; it also facilitates the memorizing process for writing the adaptation.

The purpose of question 6 is to learn the AI use of the learners through inquiry for which AI-integrated tools the respondents think can be used to learn academic vocabulary; in this sense, through the data collected, QuillBot is the most used with 5 out of 12 interviewees (R2,3,5,7,8) as they believed it helped them to learn more academic vocabulary and paraphrase. Respondents 4 and 12 chose ChatGPT solely for it being helpful and easy to use. Other less familiar applications are Grammarly or Duolingo (R10), and they have various academic words and contexts provided. Respondent 11 considered Google Bard because it helped the user to solve the problems immediately

Respondents 1, 6, and 9 did not state specifically an AI tool but were able to consider the usefulness of AI tools in general, which, as its ability to paraphrase, help with memorizing and understanding, extract key academic terms from notes and highlights, and reinforce vocabulary within relevant contexts. This data shows that the learners are aware of the tools, and they have experienced a few to be able to draw the reason why they think it is helpful with the learning of academic vocabulary for school assignments

Furthermore, question 7 considers the context of the Master of Arts in English Studies course and aims to acquire information on how AI tools support the learners' academic vocabulary learning in this course. This question receives multiple perspectives that reflect the personal perceptions of the interviewees. Respectively, Respondent 1 presented the idea of

acknowledging AI's ability to generate ideas quickly. Respondents 2, and 6 believe it helps them to remember and understand difficult concepts. Respondents 3, 5, 7 considered how AI paraphrases support their learning. Respondent 9 provided further details on its ability to explore more information. However, Respondent 10 explains: “improve my reading comprehension and writing proficiency. AI tools can provide instant feedback on Grammar, spelling, and vocabulary usage, helping me identify and correct errors in their writing.”

Respondent 11 and 12 stated: “It helps me save time and access new knowledge” and “Provide instant feedback”

Overall, AI tools positively affect the learners' learning of academic words. This indicates that AI has provided academic benefits for the learners in the way they use it to access information or correct their Grammar and vocabulary as well as other linguistic aspects. AI has also been shown to help learners get used to new concepts and words effectively.

Overall, questions 1 to 7 of the first section are dedicated to researching the effects of using AI in learning academic vocabulary; the results of the questions implied that the learners are aware of the features and consider it to be beneficial during their study of vocabulary for academic reasons and in using English. According to the interviewees, writing is an aspect of English skills that received much attention and is the skill they mostly used academic vocabulary for. For this instance, AI has many positive effects, including helping students to learn new and difficult concepts of academic vocabulary, allowing authentic exposure based on its responses, and helping learners become aware of the context and scenarios to apply the academic words. As seen in the response, learners can understand those benefits and utilize this tool in their learning.

Continue with the subsection for research question 1, question 8 to question number 10 in the questionnaires, which are made to collect the view of learners on the level of AI integration in their teaching and learning. Question 8 aims to acquire information on the level of AI use they are allowed in the classroom and if their teachers allow or encourage them to use AI tools in their study. These questions also help collect the data to explain if the use of AI is encouraged by graduate-level teachers to facilitate students' learning of academic vocabulary.

In this sense, the responses provided by the interviewees varied in level of integration and were reflected through the purpose that they used. The use of AI is to learn new concepts (R2), similarly, to find information to answer general knowledge and save time (R5,10) or to paraphrase their initial work (R4); others give insight into the level of integration they have in the classroom, most are decent (R3,8). R9 provided more situations where AI was utilized, that is, to analyze text structure, extract meaning, and identify relationships between words and concepts, deepening my knowledge and communication skills.

Generally, AI tools are used in the classroom; however, there are certain levels to which students can use AI. As can be seen, the learners are encouraged to use AI to support their academic assignments, including looking up relevant words or phrases and paraphrasing their works. Others use AI to help with word knowledge and learn new meanings.

Question 9 targets learners who have a background in teaching English; this question aims to find out what each of the interviewees thinks if their students use AI in their study. This aims to understand the teachers' perspective on integrating AI in the classroom. Seven of the responders (R1, 2, 3, 5, 7, 10, 12) considered it as okay, whereas the rest included other requirements for integration that informed the students not to be solely dependent on it (R5,9,8,11). However, one responder (R6) considered it was not important.

Overall, most respondents considered it is good when their students can incorporate AI into their studies, as they also have experienced AI in the same way for learning, hence, understand the potential benefits AI can bring to their own students, on the other hand, some learners however share the same idea but give the extent to how much they let the student to use, according to them, there should be some restriction and level to its usage. Very few express the opposite point of view, saying it is unnecessary to involve AI.

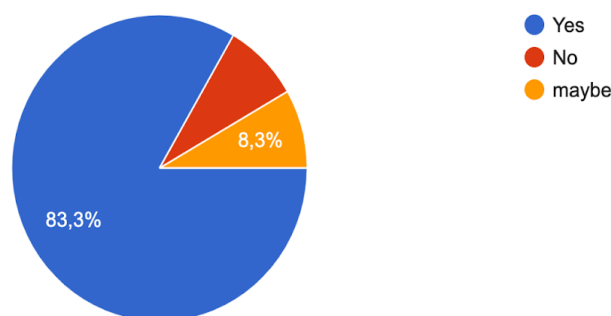
Finally, the last questions in this subsection collect the learners' opinions to understand their stand on using AI to learn academic words.

Chart 3

AI usage in the study process of academic words

Do you think AI should be used in the study process to learn academic words

12 câu trả lời



According to chart 3, 83,3% of the respondents, occupying 10 out of 12 interviewees of this question, agree that AI is a completely suitable tool to be used in the study process for academic vocabulary, this number indicates that they understand the effects of AI in the learning process as well as recognize the face benefits associating with it, hence, justify the idea of most respondent. A very small number of 8% of the population, equivalent to one respondent, did not agree to use AI in the classroom, another person in this response is neutral to the statement, they consider the use of AI is not entirely needed or unnecessary

To summarize, most respondents view the integration of AI in the learning process as necessary. Even though the collected data is varied, overall, the learners are aware that AI is being used

appropriately to learn and use academic vocabulary in their learning process. The extent to which AI is allowed in the studying process is reasonable to maintain the learning process student-centered and not too reliant on this tool. Most learners who are teachers also allow the use of AI in their students' learning.

Research question 2

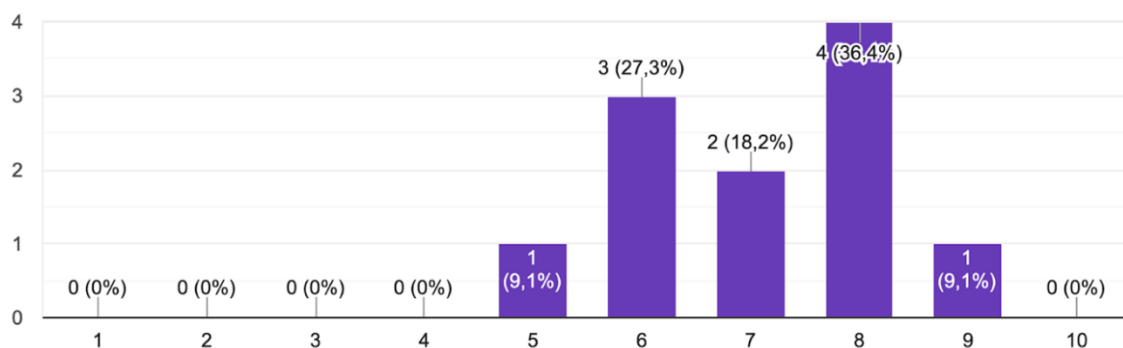
The second research question aims to study the differences in learners' academic vocabulary knowledge and learning process with respect to their different levels of using AI; it aims to acquire a detailed insight into the learners' experience. In order to present data that supports and provides answers to the second research question, the writer continues to use a set of 5 questions in a separate section. Question 1 aims to understand the level of academic vocabulary knowledge reflected through each respondent's use of AI; this helps to study the effect AI has on learners' abilities. Questions 2-5 are designed to acquire qualitative data to contrast the learning process of students' and teachers' perspectives if AI makes a significant contribution to facilitating learners' study.

Chart 4

learners' confidence in their academic vocabulary knowledge

Rate your confidence in academic vocabulary knowledge on a scale of 1 to 10, with 1 being very low confidence and 10 being very high confidence?

11 câu trả lời



Question 1 aims to understand the level of confidence students have in their academic word resources; the evaluation is conducted on a scale from 1 to 10, with the lowest confidence marked as 1 and the highest confidence equivalent to a 10. According to the response given by the Master's program learners, their level of confidence is generally higher than average, with no learners marked lower than 5. This indicates that the learners are mostly resourceful with academic words, hence, a higher level of confidence. According to the scale, 36,4% accounted

for 4 learners out of 12 consider their confidence in vocabulary knowledge is 8, which is high confidence, 3 students consider theirs to be 6, which is higher than average, 2 out of the total interviewees stand at 7, which is fairly good, 1 of them is total confidence when they consider themselves as 9. Among the respondents, only one does not have as much confidence in their level of academic vocabulary knowledge and marks themselves a moderate 5.

Question 2 in the list aims at learners using AI to investigate its effect in developing the learners' academic vocabulary knowledge by whether or not it has improved compared to when they did not use AI tools. This helps us understand the positive effect of AI in expanding vocabulary resources.

Most of the respondents, ten out of 12 responses (R1, 2, 3, 5, 6, 7, 8, 10, 11, 12) commented that their level of understanding of the academic vocabulary has improved. However, one responder (R4) is unsure if the improvement is noticeable, to which the interviewee responded with a maybe.

Considering the response, most learners approved that their academic vocabulary resources have improved after using AI tools. This indicates that AI's effect on their vocabulary learning is positive and that they can use the tools to learn the words. Considering the helpful nature and AI's ability to help learners, as stated earlier, it shows the alignment and justifies the response.

Question 3 in the list aims to investigate learners' responses to the methods they will rely on to enhance their academic vocabulary knowledge in case they do not involve AI in their learning. If they do not use AI, what will they consider as the alternatives? In this section, a variety of replacements are mentioned, most of which is the use of a dictionary, according to respondents 1, 3, 7, and 12. Another popular opinion is by using reading books and other materials (R4, 8, 10). Other opinions are from:

Respondent 2: "Reading others' research to learn academic vocab."

Respondent 6: "Listening and reading, watching movies."

Respondent 9: "Mind mapping and visual aids."

Respondent 11: "Shadowing"

Most learners consider many alternatives, and using dictionaries and reading materials is among the most popular methods for learning academic vocabulary. This indicates that students choose authentic materials, specifically for scientific purposes. This ensures authentic exposure and suitable use, which is one of several factors similar to the capability of AI.

Question 4 in this section aims to acquire information to see if learners face significant challenges if they do not use AI in their study of academic vocabulary. In this section, only 2 respondents find there is no challenge with learning and using academic words (R1, 4). Some

respondents find it hard to use formal words in writing (R2) or to find suitable words or synonyms (R6, 3).

On the other hand, some responses are about the paraphrasing process, in which Respondents 8 and 5 have problems with academic words and paraphrasing long paragraphs, while others experienced problems with time consumption (R11) or limitations in exploring and discovering (R10). The rest of the responses are:

Respondent 7: "Misunderstood"

Respondent 10: "Context"

Overall, the responses indicate that most interviewees realized their difficulties in learning academic vocabulary. Some students find the challenges minimal or insignificant, and there are no differences in how they learn using or not using AI. The challenges students face in their learning involve the limitation of understanding the meaning and the difficulty of comprehending or using it appropriately. The collected response indicates that the help learners acquire from AI is remarkable and beneficial and can facilitate or resolve challenges.

Question 5 in the list to answer the second research question aims to understand the teachers' perspective on how they notice the differences in their students based on their use of AI in learning. This helps establish another viewpoint and examines the teachers' worldviews. Respondents 3 and 6 pointed out clearly the differences in the result of a higher level of vocabulary. Others notice the students being more confident (R7, 8, 9). On the other hand, respondent 5 viewed the outcome as being lower, and according to (R11), students using AI tools cannot use English as academically as students who do not use AI.

Respondent 10: "Those students who do not use AI might lack creativity and critical thinking."

Finally, some respondents were unable to observe the differences (Respondents 1, 2, 4, 12)

Most teachers realized the differences in their students' performance when they use AI to learn vocabulary; some respondents who have two years or more stated they notice a positive attitude towards student learning of academic vocabulary in terms of word knowledge and confidence in using the vocabulary. However, some teachers have lower years in teaching or teaching young learners and cannot tell and interpret the students' reactions to using AI to learn academic words.

In summary, the questions are designed to acquire insights into learners' views to analyze the differences that AI has on students and whether the effects it brings to students are beneficial. As observed and interpreted from the responses, there are significant differences in the learners' knowledge and attitude toward learning academic vocabulary. They are aware that their knowledge level has improved compared to when they do not use AI and that by using AI, they experience fewer challenges in their learning, facilitating their learning experiences and outcomes.

Discussion

The answer to the two research questions in the above section indicates that the use of AI is beneficial to the students of the Master' program when they learn academic vocabulary that is used according to their specific academic needs. Given that the students are known to adopt the use of academic vocabulary in a more frequent manner in their study, research question 1 aims to investigate the effect AI contributed to their learning and the extent to which they are allowed to use AI in the classroom to facilitate their study; the other research questions aim to see the differences in students based on whether they use of AI for academic vocabulary learning.

The findings of the first research questions indicate that the learners consider AI to be beneficial in their study of vocabulary for a variety of academic reasons. The data proves that it is necessary to learn academic vocabulary, and writing is the aspect that received much attention, similar to the awareness of the role and occurrences of academic vocabulary in assignments (Alhojailan, 2019) and is the skill they mostly used academic vocabulary, some include either one or all English skills (Sharma, 2023; Hong, 2023)

The findings from this study gave new insights into how AI tools help learners be exposed to academic vocabulary based on how they generate their responses. The research related to the subject of AI being used in the studying for vocabulary did not provide the frequency of occurrence relating to how it can facilitate the learners' exposure (Sharma, 2023; Alsadoon, 2021; Kol, Schcolnik, et al., 2018; Liu & Chen, 2023). 100% of the interviewees stated that they experienced the use of academic vocabulary by the AI, though the frequency varied according to each interviewee's perspective. 50% of the population stated that they sometimes notice the academic vocabulary being used, another 25% admit they often come across the words, and the rest said they would usually experience this.

Upon understanding this phenomenon, the writer was able to progress in understanding if the exposure they received when using AI is considered authentic. Considering this aspect, 58.3% of the population expressed that by using AI, they are able to have authentic exposure to the use of academic vocabulary, whereas the rest gave mixed viewpoints. This data is reasonable when considering the nature of AI that can provide authentic interaction that can be used for learning (Sharma, 2023; Kohnke et al., 2023),

In terms of learners' understanding of the vocabulary being used by AI and learning it effectively, the results have indicated that AI ability to simulate conversation with the tendency to use academic vocabulary and also to correct learners' mistakes in the conversation aligns with the research by (Hong, 2023; Mahmud, 2023)

The collected responses from the studies also show the learners' real-life adaptation to AI, as presented in the number of AI tools they use in learning. QuillBot and ChatGPT are the two that received the most attention and recommendations, while others consider some other popular AI tools such as Grammarly and Duolingo. The suggestions indicate that learners are capable of learning through using AI tools that offer them corrections and provide new words;

the suggestions of using the tools are similar to those (Sharma, 2023) or using ChatGPT (Hong, 2023)

The study was able to consider an aspect that most studies did not consider, however, the writer feels the need to include the point of view of the current level of integration, in order to examine the benefits if it is considered by the educator to be helpful in order to involve in their teaching and learning. With that being said, most of the participants stated that their teacher approved them to a certain extent to learn academic words and help them paraphrase. Considering some masters' students' backgrounds as teachers, they agree on using AI to learn academic vocabulary.

The second research question helps better understand the effects of using AI in learning academic vocabulary by contrasting the learners' knowledge and experience by examining the level of knowledge and insights into their learning process. Overall, the responses to the level of knowledge, indicated that most students are fairly confident in their knowledge, considering the fact that 100% of the interviewees said they all used AI to learn academic vocabulary, similar to the findings of (Liu & Chen, 2023), it directly link to the learning experience and the benefits of using AI. With that being said, when ask for an alternative way to learn academic words, one-third of the population chose dictionaries as their trusted source, similar to the findings (Alsadoon, 2021)

The inquiry for the difficulties when the learners did not use AI to understand if AI contributed helpful assistance and facilitated learners in ways traditional methods could not. The response involves many suggestions on the downside to not using AI, all of which, when using AI, could be eliminated. The standard issue involves understanding the meaning, using the words accordingly and appropriately, and the limitation to exposure to the words. With that being said, the studies of (Liu & Chen, 2023) help us understand AI and the benefits of AI when providing students with higher knowledge and facilitating teaching when able to correct and minimize misunderstanding.

Overall, the study is relevant to many research studies that clearly demonstrate the benefits of using AI and can bring new insight to the study by observing from the academic perspective of vocabulary. This helps to better understand the effects of AI in the learning of academic vocabulary and provides insights into the level of integration needed to facilitate Master's learners who are involved in many scientific studies.

Conclusion

The insights acquired through quantitative data in this study allow the understanding of AI's effectiveness when it is used in the study of academic vocabulary for various aspects of English. The overall view of the affordances of AI for pedagogy helps students acquire word knowledge in the course. The paper also showed the authenticity of AI in providing exposure and its ability to give a deep understanding of academic vocabulary through various techniques, including

corrections and feedback. The interviewees presented a positive view towards the use of AI for academic reasons and gave clear insights into how it is beneficial and relevant in learning vocabulary. This paper proves that with appropriate use and understanding of AI ability in education, learners can benefit from it to learn and use the academic vocabulary needed for their Master of Arts in English Studies. Considering its versatility and potential ability, AI is necessary for academic vocabulary learning and a great source for education.

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References

- Hong, W. C. (2023). The impact of ChatGPT on foreign language teaching and learning: Opportunities in education and research. *Journal of Educational Technology and Innovation*, 5(1).
- Dewi, H. K., Rahim, N. A., Putri, R. E., Wardani, T. I., & Pandin, M. G. (2021). The Use of AI (Artificial Intelligence) in English Learning among University Student: Case Study in English Department, Universitas Airlangga.
- Xodabande, I., & Atai, M. R. (2022). Using mobile applications for self-directed learning of academic vocabulary among university students. *Xodabande, I., & Atai, M. R. (2022). Using mobile applications for self-directed learning of academic vocabulary among university students. Open Learning: The Journal of Open, Distance and e-Learning*, 37(4), 330-347.
- Kamola, K. (2023). ACADEMIC VOCABULARY: HOW TO TEACH AND STUDY IT. *Modern Science and Research*, 2(9), 79-83.
- Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning. *RELC Journal*.
- Ayala-Pazmiño, M. F., & Alvarado-Lucas, K. I. (2023). Integrating Artificial Intelligence into English Language Education in Ecuador: A Pathway to Improved Learning Outcomes. *593 Digital Publisher CEIT*, 8(3-1), 679-687.

- Kieu, V. L., Anh, D. T., Tran, P. D., Nga, V. T., & Ho, P. V. (2021). The Effectiveness of Using Technology in Learning English. *AsiaCALL Online Journal*, 12(2), 24-40.
- Cabrera-Solano, P., Quinonez-Beltran, A., Paul Gonzalez-Torres, C. O.-C., & Castillo-Cuesta, L. (2020). Enhancing EFL Students' Active Learning by Using 'Formative' on Mobile Devices. *International Journal of Emerging Technologies in Learning (iJET)*, 15(13), 252–263.
- Lei, H. (2022). High School Students' Foreign Language Vocabulary Acquisition in the Era of Artificial Intelligence. *2021 International Conference on Education, Language and Art*, 659-662.
- Kol, S., Schcolnik, M., & Spector-Cohen, E. (2018). Google Translate in Academic Writing Courses. *The EuroCALL Review*, 26(2), 50-57.
- Sharma, P. (2023). The use of AI in English Learning among students: Case study in English Department.
- Alhojailan, A. I. (2019). The Effect of Using Academic Vocabulary on Graduate Students' Achievements in Their Assignments. *English Language Teaching*, 12(9), 33-41.
- Liu, P.-L., & Chen, C.-J. (2023). Using an AI-Based Object Detection Translation Application for English Vocabulary Learning. *Educational Technology & Society*, 26(3), 5-20.
- Alsadoon, R. (2021). Chatting with AI Bot: Vocabulary Learning Assistant for Saudi EFL Learners. *English Language Teaching*, 14(6), 135-157.
- Mahmud, F. A. (2023). Investigating EFL Students' Writing Skills Through Artificial Intelligence: Wordtune Application as a Tool. *Journal of Language Teaching and Research*, 14(5).
- Nguyen, T. T. H. (2023). EFL Teachers' Perspectives toward the Use of ChatGPT in Writing Classes: A Case Study at Van Lang University. *International Journal of Language Instruction*, 2(3), 1–47. <https://doi.org/10.54855/ijli.23231>
- Ngo, T. C. T., & Doan, L. A. T. (2023). EFL Students' Strategies for Learning Academic Vocabulary with Mobile Phones at Van Lang University in Vietnam. *International Journal of Language Instruction*, 2(4), 19–42. <https://doi.org/10.54855/ijli.23242>

Biodata

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