# An Investigation into HUFLIT Students’ AI Competency in English Language Learning

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# Abstract

In recent years, with the rising popularity of artificial intelligence (AI) technology, especially in language education, language learners have found it more and more attractive to use AI tools such as ChatGPT, Grammarly, ELSA Speak, and Google Translate to support them in the language learning process. However, this technology revolution has also generated AI competency, whereby the students need to learn how AI works and how to use them ethically. This study was conducted to assess students’ levels of AI competency in English language learning and explore patterns of AI tools usage and perceived effectiveness. A questionnaire including three parts was employed to collect the data. The first part of the questionnaire was to collect personal information of the students. The second and third parts focus on investigations students’ levels of AI competency and their usage of AI tools in language learning. The results indicated that students possess AI competency at a high level. ChatGPT, Google Translate and Grammarly were among the most frequently used AI tools. In addition, the students also reported a relatively high effectiveness of AI tools in their language learning. From the results, some pedagogical recommendations were drawn to help enhance students’ AI competency and increase the effectiveness of AI tools usage in language learning.

***Key words***: AI competency, English language learning, students

# 1. Introduction

In the past few years, the world has witnessed the advent of Artificial Intelligence (AI) in all walks of life, including education. In English language education, AI-powered tools such as ChatGPT, Grammarly, ELSA Speak or Google Translate has been widely used by learners to enhance their English skills in and out of classrooms (Dizon et al., 2022; Siregar & Hasibuan, 2021; Kasneci et al., 2023). The digital transformation brought along by AI put emphasis on the term AI competency in the 21st-century classroom, which was defined as an individual’s capacity to understand, use and assess AI systems in an effective, responsible and ethical way (UNESCO, 2021). A language learner who is AI competent not only interacts effectively within advanced learning environments but also critically understands how an AI system works, what its limitations are, and how to use it ethically and effectively to accomplish their learning objectives (Zawacki-Richter et al., 2019). The development of AI competence involves aspects of knowledge, skill, and attitude (UNESCO, 2024), which is becoming a primary element of language learning in the context of students having to develop their language competence and contribute meaningfully to AI-dominated world.

Despite the increasing use of AI tools in learning English, there is still limited information regarding students’ actual level of proficiency in using such technologies to their best ability. Though some studies have addressed learners’ attitude towards AI tools or the benefits of AI-powered tools in enhancing some aspects of language skills (Dizon et al., 2022; Siregar & Hasibuan, 2021), few of them have carefully assessed students’ overall AI abilities including their cognition, technical skill and moral sensibilities (UNESCO, 2021). This reality is challenging to educators who would wish to integrate AI into language learning in a meaningful way. Without a competency-based, transparent assessment system, it is difficult to align the pedagogical approaches with the actual abilities and needs of students (Zawacki-Richter et al., 2019). Solving this research problem is vital to make sure that the use of AI tools in learning English does not merely involve surface technology usage but creates profound, responsible, and skill-aligned learning outcomes.

Considering the context of English language learning in Vietnam, the integration of AI into education, especially in English language teaching and learning, is at the early stage but it has received much expectation in creating a milestone in language teaching and learning (Nguyen & Nguyen, 2025). These AI-powered learning apps are proved to not only help learners enhance their pronunciation and grammar but also encourage learner autonomy and critical thinking. However, this development requires in learners the ability to understand, apply and evaluate the AI tools used consciously and effectively in their learning.

* Bottom of Form

To address the gaps in current understanding, this study sets out two key research objectives. First, it aims to measure the AI competency level of the students when they study English with AI technology, not only their functional knowledge. It aims to map technical skills and ethical awareness as well. Secondly, it seeks to examine students’ patterns of use for AI technologies and their perceptions with regard to the effectiveness of these technologies in making language activities such as writing, speaking, and learning vocabulary & grammar possible. The two objectives together will provide a clear image of how students are employing AI to acquire language and will be valuable information for educators who care about aligning teaching technique with learners’ evolving skills and needs.

The study seeks to answer the following questions:

1. What AI tools are students using for English language learning tasks?
2. What are the students’ perceptions of the usefulness of AI in English language leaning?
3. How competent are they in applying these tools effectively?

# 2. Literature review

## 2.1. AI in education

In the past few years, the world has witnessed the transformation which technology especially AI is bringing to many fields, and education is not an exception. The term AI in Education (AIEd) has become one of the most common research topics for many researchers and educators because of its potential in offering personalized learning experiences, adapting to individual needs in real time and providing automated, immediate feedback (Luckin et al., 2016). Consequently, AI has become one of the most important tools in education which has been widely used in various intelligent learning-support systems, automatic assessment, learners’ behaviours analysis, and instant feedback providing (Luckin et al., 2016; UNESCO, 2021).

Firstly, many researchers agreed that AI English language learners are benefited by AI’s capability to personalize learning. AI can identify the learning gaps in each learner due to differences in prior knowledge about the topic, social-cultural background, economic well-being and emotional state (Bose & Khan, 2020) and offer suitable learning contents for learners. AI-powered learning platforms such as Duolingo, ELSA Speak and Grammarly based on algorithms to adjust learning content in accordance with learners’ progress and specific needs of individual learners, which in turn can foster interaction and learning performance (Zawacki-Richter et al., 2019). Similarly, Holmes et al., 2019 concluded that AI can analyse information from big data about learning processes and personalize learning goals, paths and also predict learning outcomes.

Secondly, many researchers have proved that AI-powered tools play an increasingly important role in supporting language learning through real-time feedback, which support learners in enhancing various language skills. For example, ELSA Speak use speech recognition techniques in providing corrective feedback about learners’ pronunciation in an effective manner (Holmes et al., 2019). Moreover, writing assisted AI-powered tools such as Grammarly or Quillbot employ natural language processing to identify grammatical mistakes and suggest improvements, thus enhance academic writing competencies in learners. In addition, tools like ChatGPT bring about conversation practice and providing flexible feedback, which help learners increase their confidence in communicating in the target language (Zawacki-Richter et al., 2019).

Thirdly, Gilbert Dizon’s 2022 research concluded that the integration of AI tools in English language teaching and learning resulted in not only the development of speaking and listening skills but also the enhancement of learner autonomy and engagement. In addition, Silitonga et al. (2023) found a similar result showing that AI-powered flatforms significantly foster greater engagement in learning and enhancing learner motivation in learning. When comparing traditional classroom teaching methods with the utilization of chatbot-driven interactions, researchers suggested that AI-powered flatform offer a more personalized and dynamic learning experience, thereby enhancing learner motivation and promoting active engagement in the educational process, and thus leading to improved learning outcome (Guo et al., 2023).

Overall, these AI-powered tools not only support learning and motivation, but also enhance learning outcomes, especially in the context of rapid development of language learning (Luckin et al., 2016; UNESCO, 2021).

## 2.2. Common AI tools in language learning

Recent research has highlighted the ubiquity of AI-powered tools in language learning. Among the most commonly used tools are ChatGPT, Grammarly, Quillbot, Duolingo, and ELSA Speak. A positive correlation between these tools and improved language proficiency in all four core skills, particularly productive skills of writing and speaking have been confirmed by many researchers in the field of language learning (Kasneci et al., 2023; Ebadi & Rahimi, 2019; Siregar and Hasibuan, 2021).

Firstly, in relation to speaking skills, apps like ELSA Speak or other similar interactive chat bots, with the potentials to provide feedback and interactive exercises which allowed students to practice independently, identify specific pronunciation errors, and receive targeted suggestions for improvement, have been empirically shown to improve students’ pronunciation accuracy, fluency, and confidence (Holmes et al., 2019; Siregar & Hasibuan, 2021). Furthermore, Kasneci et al. (2023) found that ChatGPT – as a virtual tutor – has the capability to produce text that emulates human language and comprehend complex linguistic nuances, and can produce coherent, contextually relevant content. In addition, it can facilitate goal setting and provide interactive guidance, and thus enhance students’ engagement, improve access to learning resources, and strengthen writing and grammar skills (Kasneci et al., 2023).

Regarding writing skills, tools such as Grammarly and Quillbot have shown substantial pedagogical value. **Grammarly** has shown positive impacts on EFL students’ writing performance and has been associated with reductions in foreign language anxiety, thereby promoting learner autonomy (Ebadi & Rahimi, 2019). Similarly, Tambunan et al. (2022) reported that Grammarly was capable of extending beyond mere error detection to provide actionable suggestions aimed to enhance textual coherence and style, and thus improve students’ grammatical accuracy, punctuation, and sentence structure. **Similarly, Quillbot**, an AI-driven paraphrasing tool, revolutionized foreign language writing by offering grammar check, real-time feedback, and improving EFL learners’ writing abilities as well as fostering their motivation (Rahimi & Fathi, 2022). Similarly, Niswa and Amsari (2025) concluded that Quillbot has showed significant potential for improving students’ writing skills by assisting students to improve grammatical accuracy, enhance vocabulary selection and maintain textual coherence via its algorithms.

In the domain of machine translation, **Google Translate** – enhanced by AI algorithms, has been recognized for its benefits in supporting vocabulary, writing sentences, fast translation with superior translation quality, particularly in certain language pairs (Castilho et al., 2018).

For receptive skills of listening and reading, AI-powered tools support learners in employing tools like text summarizers, text-to-speech converters, or auto-generated subtitles, and thus improving their learning materials access and input processing capabilities (Mostow & Aist, 2001; Roediger & Karpicke, 2006). In addition, ELSA Speak, while primarily designed for pronunciation and speaking skills practice, includes listening modules to train comprehension of native-level English accents, which is particularly beneficial for non-native learners (Kim & Lee, 2023). Similarly, Duolingo integrates speech recognition and listening AI for interactive, gamified listening exercises, which have been shown to improve vocabulary and listening performance in EFL contexts (Al-Ahdal, 2020; Jin & Zhang, 2021). ChatGPT can also be used to generate or summarize reading and listening passages, explain vocabulary, or simulate interactive comprehension quizzes, supporting personalized and contextualized language input for learners (Alshahrani, 2023).

Notably, AI-powered apps such as Duolingo have been proved to be effective in enhancing various English language skills ranging from speaking, reading, listening and writing (Kusumadewi, 2018). According to Handini et al. (2022), utilizing the Duolingo application can enhance speaking abilities of university students with functions such as analysing mistakes in grammar, pronunciation and providing writing suggestions or automated feedback.

Overall, these AI-powered tools can offer learners with individual practice, and thus enhance learner autonomy, motivation, confidence (Dizon & Tang, 2022).

## 2.3. Potentials and challenges of the integration of AI into language education

The integration of AI into language education has transformed the way learners interact with digital tools, especially in developing productive skills of speaking and writing. As AI-powered tools become more and more popular and accessible, the competency to use these technologies effectively or AI competency has emerged as a critical factor in language learning success. Research by Kasneci et al. (2023) concluded that writing assistant tools such as ChatGPT enhance learners’ writing proficiency and at the same time increase learners’ engagement in language learning through interactive feedback. Learners with AI competency can apply tools to identify grammatical mistakes, improve their arguments as well as paraphrase sentences to match learning contexts (Chen et al., 2021). Other researchers (Chen et al., 2021; Xu & He, 2022) have demonstrated that learners with higher AI competencies know how to choose appropriate learning tools for their learning goals, how to use advanced functions such as context analysis or style improvement and adjust their learning strategies through feedback provided by AI-powered tools.

In addition, Xu & He (2022) reported that learners were also able to evaluate and adjust responses from AI-powered apps to keep their personal writing styles and to avoid overdependence on technology. Similarly, research has shown that writing performance was enhanced and foreign language anxiety was reduced through the use of Grammarly in academic writing (Ebadi & Rahimi, 2019). Kholis (2021) found a similar relationship between the use of speech recognition apps like ELSA Speak and the improvement of pronunciation in learners.

Beyond tool use, AI competency encompasses broader metacognitive and strategic learning dimensions. According to UNESCO (2021) and Luckin et al. (2016), AI competency not only supports learners in using technological tools, but also contribute to enhancing learning strategies, critical thinking, and creativity in language development (UNESCO, 2021; Luckin et al., 2016).

However, the growing reliance on AI in language learning is not without challenges. Firstly, one of the biggest challenges is the overdependence on the contents and answers created by AI-powered tools, which can provide inaccurate, unverified information or even bias (Floridi et al., 2018; Weidinger et al., 2021). This challenge requires in learners the ability to evaluate the accuracy of the responses instead of blindly and passively accepting whatever answers provided by AI-powered tools. Moreover, AI tools can undermine creativity and critical thinking because they might encourage the behaviours of solution-copying in academic learning environments (Luckin et al., 2016).

Another concern about the use of AI-powered tools in language learning lies in the fact that learners’ privacy and leaking private data when interacting with those tools. Learners can become victims of data exploitation unknowingly if they don’t understand the way AI collect and analyse data from users (UNESCO, 2021). Ethical awareness in AI usage is therefore essential, especially for younger and less digitally literate learners.

Lastly, the absence of human factors can make AI-based learning experiences superficial and lack the essential depths of social-cultural factors created through pedagogical feedback from teachers or authentic language textbooks.

Given these potentials and risks, it is crucial that the development of AI competency in language learning should go hand in hand with the education of digital ethics, critical thinking, and life-long learning skills to ensure learners’ use of technology in an effective, responsible and safe way. This integrated approach ensures that AI-enhanced language learning is not only effective but also responsible, personalized, and sustainable.

## 2.2. Models of AI competency

One of the key frameworks which direct teaching and learning with AI in education is UNESCO’s AI competency framework. This framework aimed at supporting learners and educators in understanding the roles, operational mechanisms and social-ethical implications of AI in modern education (UNESCO, 2021). In addition, this framework also helps to enhance technological awareness, develop critical thinking skills, digital literacy and life-long learning capacity – the key competencies which help learners to adapt to social and labour market demand in the future (UNESCO, 2021).

UNESCO’s AI competency framework included three main pillars: (1) Knowledge-based competency, including knowledge about how AI works and basic technical terms such as machine learning, big data and algorithms; (2) Skill-based competency, referring to learners’ skills to integrate AI into learning and professional development, which focuses on the capacity to engage with AI tools to improve learning effectiveness as well as to make decisions and solve problems in real life; and (3) Attitude-based competency, comprising ethical use of AI, which emphasizes the ability to critically evaluate AI and use it in an ethical, transparent and fair manner (UNESCO, 2024). Firstly, knowledge includes basic understanding of AI, how AI operates, technical terms such as algorithms, machine learning, big data as well as the ability to recognize AI tools in learning and in real life (Holmes et al., 2019; UNESCO, 2021). Secondly, AI-related skills refer to the capacity to employ AI tools strategically in learning, processing information, interacting in English, and especially using AI strategically in real-life situations (Luckin et al., 2016). In addition, problem-solving skills in AI environment was also emphasized by the framework. Accordingly, problem solving skills in AI environments require a learner to use AI tools as well as to integrate AI into analysing, evaluating, and making decisions – especially in language learning, where adaptability and linguistic responsiveness play a key role in learning success (Zawacki-Richter et al., 2019). Last but not least, ethical considerations, which are considered to play a vital role in AI competency, include knowledge about data privacy, bias, fairness and responsible use of AI (UNESCO, 2021; Floridi et al., 2018).

These three components together create an integrated competency framework which reflects the shift from a pure approach to technology to cultivating digital citizens who possess critical thinking, reflexiveness and ethics in AI-driven world.

## 2.3. AI competency and English language learning

The term AI competency in English language learning is recognized as a new approach to language education in the new era. In the context of language learning, AI competency not only covers the use of AI-powered tools such as ChatGPT in supporting writing or enhancing conversation but also includes the ability to understand, evaluate and employ these tools effectively in language learning (Luckin et al., 2016; UNESCO, 2021). Thus, AI competency can be used to assess learners’ readiness and their capacity to apply AI tools, thus directing learning contents in a way that aligns with the demands of digital transformation in education. Recent research about AI competency concluded AI competency development is not solely about technology training but is a complete structure of three core components of knowledge, skills, ethical considerations.

In the current study, to test the level of students’ AI competency in English language learning, the author adapted the AI competency framework provided by UNESCO (2024) and Ng et al. (2024) as follow:

AI COMPETENCY

KNOWLEDGE

SKILLS

ATTITUDE

AI definitions & its key concepts

AI apps & limitations

Data sources, bias & ethical challenges

Proficiency in using AI tools

Evaluating AI-generated content

Problem-solving

Positive engagement with AI tools

Ethical considerations

Advocating for responsible AI use

ENGLISH LANGUAGE LEARNING

*Figure 1*. Conceptual framework of AI Competency in language learning (UNESCO, 2024) and Ng et al. (2024)

Figure 1 shows the conceptual framework of AI competency integrated into English language learning. As can be seen from this figure, AI competency comprises three core components of knowledge-based, skill-based, and attitude-based competency. These three components then involve a set of sub-category competencies. Firstly, knowledge-based competency covers the basic understanding of AI technical terms including algorithms, machine learning, big data, and the ability to recognize AI-powered tools and their limitations in language learning and in real life. In addition, knowledge-based competency also embraces the understanding data sources, bias and ethical challenges such as overreliance or misinformation by AI-generated outputs. Knowledge competency can provide learners with not only the familiarity with AI tools but also the understanding of their impacts on the learners themselves and on society. Secondly, skill-based competency includes different levels of skill development in using AI tools in English language learning, the ability to evaluate AI-generated contents, and the ability to solve problems in language learning using AI tools. Last but not least, attitude-based competency encompasses a positive attitude in engaging with AI tools in the English language learning process, ethical considerations and responsibility related to using AI-powered tools. This competency allows learners to hold a positive, reflective attitude toward technology, and encourages them to not only blindly consume AI outputs but also actively shape their engagement with technology in a purposeful and effective way. These three core components of AI competency are then reflected through the way learners employ AI in learning English in an effective and responsible manner.

# 3. Methodology

## 3.1. Research design

A quantitative approach was employed for the current study to explore the students’ level of AI competency in language learning at university. An online questionnaire including 31 items was administered to the students through Google Form. The design of the questionnaire was based on Ng et al. (2024)’s AI Literary Questionnaire. The first part of the questionnaire focused on demographic information of gender, major, and year of study at university. The second part including questions in form of test with score range from -1 to 5 focused on testing students’ level of AI competency through the use of AI tools in language learning and their understanding of AI and their awareness of the ethics of AI tool usage. The third part was to explore the students’ self-reported level of AI competency in language learning. The test-based AI competency level collected was then converted into 5 levels of competency of Minimal (0-7.9 points), Basic (8-12.9 points), Developing (13-16.9 points), Proficient (17-20.9 points), and Advanced (21-24 points).

## 3.2. Pedagogical setting & participants

The study involved the participation of 128 students from 4 classes from Faculty of Foreign Languages at HCMC University of Foreign Languages and Information Technology. The students were currently enrolled in the course Advanced English Skills, and in their 3rd and 4th year. 78.1% of the students were at their 3rd year, whereas 21.9% of them were at their final year at university. The students came from various majors within the Faculty of Foreign Languages including English Language Teaching (46.9%), Translation & Interpretation (4.7%), Office Administration (40.6%), Business English (1.6%), English for Logistics and English Chinese Bilingual Studies (6.3%). The students’ level was at B2-C1 as described in course outline.

## 3.3. Data collections & analysis

In order to collect data, an online version of the questionnaire to the students through Google Form. Data management and analysis were performed using SPSS 26.0. Statistical analysis including descriptive and mean score were conducted to generate findings regarding students’ level of AI competency. In addition, a comparison of students’ self-reported level of AI competency and their actual level of competency was conducted to get an insight into students’ AI competency in language learning.

# 4. Findings

## 4.1. AI tool usage in English language learning

### 4.1.1. Patterns of AI tool usage

Table 4.1.1. Frequency of AI tool usage

|  |  |  |
| --- | --- | --- |
| Tools | Number | Percentage |
| Grammarly | 96 | 75.0% |
| ChatGPT | 112 | 87.5% |
| Duolingo | 54 | 42.2% |
| Google Translate | 104 | 81.3% |
| Text-to-Speech | 30 | 23.4% |

Table 4.1.1 reveals valuable insights into students’ usage patterns of AI-powered tools in language learning. Accordingly, ChatGPT was used the most frequently by the students, with 112 out of 128 participants, accounting for 87.5%. Rank second was Google Translate (81.3%), which was only a little lower than ChatGPT. This result reflects the fact that while Google Translate offers quick lexical and sentence-level translation, ChatGPT is able to help learners with higher-order language tasks such as paraphrasing, generating written responses, and stimulating conversation practice, which aligns more closely with learners’ need, especially for productive skills of writing and speaking.

In contrast, Duolingo and Text-to-Speech had significantly lower with the frequency of 42.2% and 23.4% respectively. This sharp decline in the use of ChatGPT and Google Translate as compared to Duolingo and Text-to-Speech tool proved the gap between general purpose AI tools and more skill-specific tools in language learning. This result can be due to the fact that the use of tools like Duolingo requires sustained engagement overtime and may not be as flexible as the former tools. Similarly, Text-to-Speech tools may also be perceived as supplementary rather than central to language learning.

### 4.1.2. Pattern of AI tool usage to support individual skills

*Figure 2*. AI tool usage to support individual skills

Figure 2 reveals the pattern of AI-powered tools usage in language practice skills development. The results show that the participants used AI-powered tool for activities related to vocabulary, grammar and translation the most frequently. As can be seen from this table, all of the items received a high level of agreement from the participants, with mean score higher than 3.21 (high level) except for speaking/pronunciation practice (M = 3.13, average level) and listening practice (M = 3.08, average level). Specifically, AI-powered tools were employed by learners in translation activities the most frequently (M = 3.84, high level). Grammar checking was used a slightly less frequently than translation with the mean score of 3.80 (high level). Ranked third and fourth were the use of AI-powered tools in learning vocabulary (M = 3.77, high level) and assisting writing (M = 3.64). In addition, using AI tools in creating chat-based interaction and reading comprehension were reported to be less frequent with the mean score of 3.42 and 3.30 respectively. In contrast, using AI-powered tools in speaking/pronunciation practice and listening practice had the lowest mean scores (M = 3.13 and 3.08 respectively), showing that the participants only rarely or sometimes use those tools to improve their speaking or listening skills. This can be because the students prefer authentic listening materials with from textbooks accompanied by answer keys rather than materials created by AI. On the other hand, technological barriers, lack of guidance, or the thinking that AI has little value in improving their pronunciation and speaking skills also leads to the low frequency of AI tools usage in those fields.

### 4.1.3. Perceived effectiveness of AI tools

Table 4.1.3. Perceived effectiveness of AI tools

|  |  |  |  |
| --- | --- | --- | --- |
| Activities | Effectiveness | Mean | Stand. Dev. |
| **Not effective at all** | **Slightly effective** | **Moderately effective** | **Very effective** | **Extremely effective** |
| Improving vocabulary knowledge | 1.6% | 6.3% | 25.0% | 39.1% | 28.1% | 3.86 | 0.954 |
| Correcting grammar mistakes | 0% | 6.3% | 21.9% | 46.9% | 25.0% | 3.91 | 0.846 |
| Improving writing fluency & coherence | 0% | 12.5% | 23.4% | 43.8% | 20.3% | 3.72 | 0.930 |
| Enhancing pronunciation & speaking clarity | 4.7% | 10.9% | 31.3% | 35.9% | 17.2% | 3.50 | 1.050 |
| Supporting reading comprehension  | 4.7% | 10.9% | 29.7% | 37.5% | 17.2% | 3.52 | 1.050 |
| Improving listening skills | 9.4% | 18.8% | 26.6% | 31.3% | 14.1% | 3.22 | 1.183 |
| Assisting with translation and meaning understanding | 0% | 4.7% | 26.6% | 42.2% | 26.6% | 3.91 | 0.846 |
| Encouraging English communication or conversation | 6.3% | 6.3% | 25.0% | 48.4% | 14.1% | 3.58 | 1.016 |
| Helping with academic writing tasks | 0% | 7.8% | 20.3% | 39.1% | 32.8% | 3.97 | 0.922 |
| Building confidence in using English | 7.8% | 6.3% | 37.5% | 31.3% | 17.2% | 3.44 | 1.092 |

Table 4.1.3 reveals students’ perceptions on the effectiveness of AI tools in developing English language proficiency. In general, AI-powered tools are positively correlated to students’ learning, especially in helping with academic writing tasks (M = 3.97), correct grammatical mistakes (M = 3.91), and translation (M = 3.91). Notably, helping with academic writing tasks had the highest mean score of 3.97 (high level). Specifically, 32.8% of the participants evaluating as extremely effective and 39.1% evaluating as very effective. This result reflects the students’ appreciation for AI tools such as Grammarly, Quillbot or ChatGPT in supporting their academic writing tasks such as supporting their arguments, paraphrasing sentences, and checking mistakes.

In addition, correcting grammar mistakes and assisting translations both had the mean score of 3.91. Almost 72% of the participants evaluated those two features as very effective, showing that AI-powered tools can fulfil the needs of handling textual content and providing semantic assistance in the learning process. In addition, moderately high ratings were given to improving vocabulary knowledge (M = 3.86), improving writing fluency and coherence (M = 3.72), encouraging English communication (M = 3.54) and supporting reading comprehension (M = 3.52). These results suggest that while those AI-powered tools are regarded as effective in supporting language comprehension and production, they are less common than grammar correction and translation tools. Especially, the students showed a relatively low level of agreement for the features of listening and speaking skills (M = 3.22 and 3.50 respectively). These results align with earlier findings, showing that AI tools have hey to demonstrate strong effectiveness in supporting listening and speaking skills – or that the students have not yet effectively employed tools such as voice assistants, speaking practice chatbots, or text-to-speech apps. The mean scores for the feature of building confidence in using English was M = 3.44, which is lower than other features in many other areas. It is noteworthy that while AI-supported tools can foster technical skills, they do not replace motivational elements, empirical-like human interaction, or emotional feedback, which are particularly important in language learning.

## 4.2. AI competency levels

### 4.2.1. Students’ self-reported AI competency level

Table 4.2.1. Students’ self-reported AI competency level

|  |  |  |  |
| --- | --- | --- | --- |
| Statements | Degree of agreement | Mean | Stand. Dev. |
| **SD** | **D** | **N** | **A** | **SA** |
| Understand how AI can support English language learning | 0% | 4.7% | 31.3% | 42.2% | 21.9% | 3.81 | 0.83 |
| Can explain how tools like Grammarly or ChatGPT use AI to assist language learners. | 0% | 3.1% | 39.1% | 37.5% | 20.3% | 3.75 | 0.81 |
| Be aware of how machine learning improves AI-powered language apps over time. | 1.6% | 4.7% | 29.7% | 42.2% | 21.9% | 3.78 | 0.89 |
| Can identify different AI applications designed for learning English | 0% | 4.7% | 35.9% | 37.5% | 21.9% | 3.77 | 0.84 |
| *Cognitive aspect* | *3.77* | *0.71* |
| Can use AI tools to practice speaking, writing, or listening in English | 1.6% | 4.7% | 28.1% | 45.3% | 20.3% | 3.78 | 0.87 |
| Know how to use grammar checkers, translation tools, and voice assistants effectively. | 0% | 3.1% | 26.6% | 43.8% | 26.6% | 3.94 | 0.81 |
| Have used AI tools to get feedback on my English writing or pronunciation. | 0% | 4.7% | 29.7% | 42.2% | 23.4% | 3.84 | 0.83 |
| Can evaluate the usefulness and accuracy of AI-generated language suggestions. | 0% | 4.7% | 35.9% | 37.5% | 21.9% | 3.77 | 0.84 |
| *Skill aspect* | *3.83* | *0.73* |
| Understand the risks of depending too much on AI when learning English. | 0% | 6.3% | 18.8% | 42.2% | 32.8% | 4.02 | 0.87 |
| Know that AI tools can make mistakes in grammar, meaning, or cultural context. | 0% | 4.7% | 26.6% | 42.2% | 26.6% | 3.91 | 0.84 |
| Think it’s important to use AI ethically and responsibly in language learning. | 0% | 7.8% | 23.4% | 43.8% | 25.0% | 3.86 | 0.88 |
| Be aware of the privacy and data concerns when using AI-powered learning apps. | 0% | 7.8% | 31.3% | 37.5% | 23.4% | 3.77 | 0.90 |
| *Ethical aspect* | *3.88* | *0.75* |
| Be confident using AI tools to support my English learning. | 1.6% | 10.9% | 26.6% | 37.55 | 23.4% | 3.70 | 0.99 |
| Believe AI can help me improve faster if used correctly. | 0% | 6.3% | 28.1% | 34.4% | 31.3% | 3.91 | 0.91 |
| Be open to exploring new AI-based platforms for English learning. | 0% | 4.7% | 26.6% | 39.1% | 29.7% | 3.94 | 0.86 |
| Enjoy using AI tools to practice English outside of the classroom. | 1.6% | 3.1% | 29.7% | 40.6% | 25.0% | 3.84 | 0.89 |
| *Attitude aspect* | *3.84* | *0.76* |
| *AI competency* | *3.83* | *0.69* |

Table 4.2.1 shows an overview of descriptive statistics of students’ competency levels. As can be seen in this table, students’ overall AI competency had the mean score of 3.83, which is at a high level, with all four main aspects of cognitive, skills, ethics and attitudes having mean scores at a high level (M = 3.77, 3.83, 3.88, and 3.84 respectively). Ethical dimension received the highest level of agreement from the participants (M = 3.88, high level).

Concerning cognitive aspect of AI competency, the participants showed a high level of agreement with all four items with mean score ranging from 3.75 to 3.81 (high level), showing the dominant trend of agreement. Specifically, the highest mean score belongs to the item “understand how AI can support English language learning” (M = 3.81, high level) with 64.1% of the participants agreed and strongly agreed. This result shows that the majority of the participants had a general awareness of AI-powered tools’ roles in developing their English proficiency. Other items also received a similar clear awareness. For example, 57.8% of the participants agreed that they could explain how tools like Grammarly or ChatGPT use AI to assist language learners, whereas 39.1% chose to be neutral. This result reveals that a number of the participant still did not gain a full understanding of how AI-powered tools support the learning process. Overall, data show that the participants possess a relatively high level of cognitive awareness about the role, mechanisms, and potential of AI in language learning. However, the considerable proportions of neutral choices (29.7%-39.1%) shows that there was a gap in deep and confident understanding, especially about how AI tools work.

Considering skills aspect of AI competency, the table shows that the participants had a relatively high level of skills related to using AI tools in learning, with overall mean score of 3.83, a little higher than cognitive aspect (M = 3.77). This result reveals that the majority of the participants were capable of utilizing AI-powered tools such as grammar checkers, translation tools, and voice assistants strategically to suit their learning goals (M = 3.94) and increasingly integrated AI technology into skills practice (M = 3.84). In addition, with the mean score of 3.77, which is the lowest among the four items related to skills aspect, the skill of evaluating the usefulness and accuracy of AI-generated suggestions still falls within the high range. However, the relatively high proportion of the participants choosing neutral option (35.9%) suggests that some learners have difficulties in evaluating feedback provided by AI, which is linked to higher-order analytical and critical thinking skills.

For ethical aspects of AI competency, the table shows a high level of agreement of the participants with the four items related to ethics of using AI in language learning with the overall mean score of M = 3.88. Specifically, 75.0% of the participants agreed and strongly agreed that they can understand the risks of AI dependency in language learning (M = 4.02, high level). This indicates that the participants were fully aware of the limits of AI in language education and that overusing AI tools can weaken their ability to learn independently and critical thinking. In addition, knowing in AI can make mistakes, and there are risks with privacy and personal data also received a high level of agreement from the participants. This reflects learners’ cautions when using AI to avoid misinformation or content that may be culturally or socially inappropriate. However, the relatively high proportion of neutral option related to privacy and personal data concerns (31.3%) indicates that some learners may not be fully aware of data-related risks in digital learning environments. Last but not least, 68.8% of the participants agreed and strongly agreed with the idea of using AI ethically and responsibly indicates that the participants not only use technology but are also conscious of their own responsibility and ethical implications of their learning behaviours.

Considering the attitudinal aspect of AI competency, table 4.2.1 also reveals a positive attitude, with the overall mean score of 3.84, only a little lower than the ethic aspect (M = 3.88). Specially, the majority of the participant (68.8%) agreed and strongly agreed with the idea that they were open to exploring new AI-based platforms for English learning and 65.5% believed that AI can help them improve their proficiency faster if used correctly. These results suggest that the learners are actively engaged with new technologies, which is an essential mindset in the rapidly evolving and diverse AI landscape and their trust and expectations of the benefits of AI in the language learning process. Moreover, 65% of them also agreed that they enjoyed using AI tools to practice outside the classroom. This reveals the fact that the students consider AI as a tool to extend learning beyond the classroom, which bring learner autonomy into place. Lastly, concerning the participants’ confidence in using AI tools to support their learning had the lowest mean score in attitude aspect, yet it is still at a high level. However, the fact that 26.6% of the students selected “neutral” and 10.9% chose to disagree suggested that some of the students remains hesitant or lacks confidence in employing AI-powered tools regularly in their learning.

Overall, the survey reveals that the participants’ AI competency at a relatively high level in all four aspects of cognitive, skills, ethics and attitudes. Among the four aspects, ethics had the highest mean score of 3.88 reflecting students’ strong awareness of risks in using AI in language learning such as misinformation, technology dependence, or privacy concerns. Skill aspect is also highly appreciated with M = 3.83, showing that the majority of the students are competent in using AI in learning. Students’ attitudes towards AI in learning are also positive, reflecting their openness in exploring new AI-powered learning platforms and trust in AI benefits, and the enjoyment of learning English outside the classroom. On the other hand, cognitive aspects had the lowest mean score of 3.77, showing that parts of the students are not yet fully aware of the mechanisms of AI as well as its potentials.

### 4.2.2. A comparison between self-reported and teste-based AI competency

*Table 4.2.2*. A comparison between self-reported and teste-based AI competency

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Level | Level 1 Minimal | Level 2 Basic | Level 3 Developing | Level 4 Proficient | Level 5 Advanced | Mean |
| Students’ self-reported AI competency | 0% | 3.1% | 18.8% | 50% | 28.1% | 3.83 |
| Test-based AI competency | 3.1% | 17.2% | 26.6% | 32.8% | 20.3% | 3.50 |

Table 4.2.2 presents the differences between AI competency levels reported by the students and tested through multiple choice questions. In general, there is a considerable difference between these two results, reflecting through self-reported mean score of 3.83, higher than the mean score of tests (M = 3.50), showing a clear tendency among students to overestimate their AI competency. Specifically, 50% of the students self-evaluated themselves as proficient and 28.1% as advanced levels, meaning that almost 80% of the students reported that they got a high level of understanding and using AI-powered tools. However, according to test-based results, only 32.8% of the students were at proficient level of AI competency and 20.3% of them were at advanced level of AI competency whereas a considerable percentage were at lower ranks of developing (26.6%) and basic levels (17.2%).

The gap between self-reported level of AI competency and the reality shows that the students either lack a full understanding of requirements related to AI or they tend to overestimate their personal capacity, especially when AI tools are used frequently without going hand in hand with basic knowledge and critical thinking skills or a false assumption that frequent tool use automatically equates to mastery.

*Table 4.2.3*. Paired sample T-Test results

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Pair | Mean | N | Mean difference | 95% Confidence Interval of the Difference | df | Sig. (2-tailed) |
| Self-reported AI competency level | 3.83 | 128 | 0.33 | 0.16162 | 127 | .000 |
| Test-based AI competency level | 3.50 |

Table 4.2.3 reveals the results of Paired sample T-test between students’ self-reported AI competency and test-based AI competency. As can be seen from this table, there’s a statistically significant difference between the AI competency level the students evaluated by themselves and the real AI competency level based on test results (p <.001). This result indicates the true mean difference is positive, reinforcing that the students overestimate their AI competency, perceiving themselves as more competent than the subjective results suggest.

# 5. Discussion

This study was set out for the purpose of investigating students’ AI competency levels in language learning. From data analysis, some major findings can be found as follows.

Firstly, the study found that the students’ AI competency was at a high level. The high mean scores of all the four components of AI competency including cognitive, skills, ethics, and attitudes reflect a well-rounded level of AI competency among the students. In addition, the highest mean score belonged to ethical aspect of AI competency, reflecting that the students were fully aware of ethical considerations and responsibilities related to using AI in language learning. The mean scores for AI-related skills and attitudes, which were also high, indicate that not only are the students confident and willing to work with AI tools, but even possess the ability to implement them into their language learning journey. In addition, the cognitive dimension had the mean score just lower than other dimensions, yet within the high range, indicating that the students generally understood the essential functions and implications of AI tools, but would appreciate more instructions and guidance. These findings are consistent with recent empirical findings by Ng et al. (2024). According to the study developed and validated by Ng et al. (2024), ethical awareness was rated the highest among secondary school learners, reflecting the increasing exposure to public discussions about AI responsibility. In addition, the high mean scores for skills and attitude dimensions were supported by the results of the studies by Alshahrani (2023) and Alieto et al. (2024), who also found that EFL learners felt confident and motivated to use AI-powered tools for writing and grammar like Grammarly, ChatGPT, and Google Translate. This finding indicates that learners are both willing to integrate AI into their learning process, as well as possessing the technical skills necessary to do so, especially in tasks such as grammar correction, paraphrasing, and translation. Moreover, the lowest scores were recorded for the cognitive dimension of AI competency in students, which corresponded to Chen et al. (2021). In addition, Xu and He (2022) concluded that students’ frequent usage of AI tools did not include a thorough understanding of the tools’ limitations, how they function, or how to assess the produced by AI tools. In light of the findings, Xu and He (2022) recommended that in order to preserve academic integrity, learners should be taught to evaluate AI responses critically and adapt the outputs carefully. In the same vein, Kasneci et al. (2023) emphasized the need to incorporate AI literacy into language learning curriculum to expose overreliance and promote reflective engagement.

Secondly, a gap in the pattern of AI tools usage was found in the current study. Specifically, ChatGPT and Google Translate emerged as the two most frequently used tools with only a slight difference in usage between them whereas Duolingo and Text-to-Speech remained underutilized. This high adoption rate suggests that ChatGPT and Google Translate were seen as a flexible and effective tool to use due to their functions of supporting language skills such was writing, speaking or checking grammatical or spelling mistakes, and providing grammatical explanation. These functions align closely with the demand of learners who need real-time feedback and personalized learning content in the learning process. On the other hand, Duolingo’s exercises demand regular logins and linear progressions, while Text-to-Speech Speech apps are till perceived as assistive technology. These tools cannot match the immediacy of chatbot that rewrites a paragraph in seconds or a translator that decodes a webpage on the spot. Therefore, the students tend to preserve Duolingo as planned practice section and fall back for ChatGPT or Google Translate for real-time problem-solving. This result is aligned with the findings of Moulieswaran and Kumar’s (2023) study, in which the students highly appreciated immediacy and engagement of structured tools, and lowered perceived immediacy and engagement led to declines in usage.

Thirdly, while most of the students highly appreciated the effectiveness of AI-powered tools in supporting writing, translation, and handling academic language, the others were still sceptical or less experienced with the effectiveness of those AI tools in listening and speaking skills. This disparity suggests that the students consider AI apps such as ChatGPT, Grammarly, or Google Translate were more capable of providing instant, visible and easily accessible text-based outputs rather than oral or auditory tasks. These results concur with those by Alieto et al. (2024) who discovered that while learners found AI helpful for processing academic texts, they were still reluctant to depend on AI for skills that requires auditory or phonological feedback. In the same vein, Ho (2024) found that although more than 85% of EFL students employed ChatGPT for writing assignments, less than 30% said they used AI tools for listening comprehension or pronunciation practice. In addition, the current study also found the underutilization of AI apps which support pronunciation or listening comprehension such as ELSA Speak or Text-to-Speech functions. This result can be explained by the fact that the students are unfamiliar with the design, functions, or learning potential of those apps. As suggested by Moulieswaran and Kumar (2023), many learners perceive Text-to-Speech tools as assistive technologies rather than mainstream learning applications, which limits their integration into daily language practice. Additionally, although tools such as ELSA Speak can offer AI-driven pronunciation feedback and accent training, it requires consistent use and a degree of technical confidence that students may not yet possess. The novelty or sophistication of these tools, combined with their perceived lack of immediacy of real time from generative text-based alternatives, may may further discourage learners from employing them in language learning.

Last but not least, the observed differences between students’ self-ratings of AI competency and their test-based performance imply two problems. The first problem is that the students overestimate their ability to understand AI basics or use AI ethically and responsibly in language learning. This overconfidence may stem from the intuitive and user-friendly nature of AI apps, which can obscure the need for conceptual knowledge and reflective evaluation. The second problem is that the students may lack a comprehensive understanding of what AI competency comprises of. This can be explained be the fact that students engage with AI tools frequently but may lack the necessary understanding of AI, since frequent use only fosters technical familiarity, not deep understanding of AI mechanisms, limitations or responsible use. Chen et al. (2021) and Xu and He (2022) also noted a lack of critical thinking and ethical reflection in learners who frequently use AI in their learning. It is possible for students to use AI-powered tools to complete assignments or tasks in their learning, they may be unaware of the biases, limitations, or privacy implications inherent in these tools. Such a discovery underscores the need to differentiate seemingly manipulative control of instruments from smart and strategic use. It also stresses the need for teaching interventions that bridge the gap between usage and understanding, whereby the students are proficient in using AI tools effectively and understand their internal processes, ethical considerations, and appropriate context of use.

**6. Conclusion**

The results of the current study revealed that the students’ overall AI competency was at a high level, with consistently high mean scores across all four components of cognitive, skills, ethics, and attitudes. Based on the results, it can be concluded that the students are not only confident and motivated to employ AI technologies in their learning, but they are also familiar with various tools in their learning practice. However, a slightly lower mean score for the cognitive component which was found. This could possibly reflect a lack of understanding among the students about the technology of AI. This gap occurred due to students’ restricted knowledge of AI fundamentals due to the fact that AI tools have become so familiar and easy to use. The students can still use all kinds of AI tools for help with grammar check, translation, and content or answer generation, but they may not understand how these tools were made, how they can tell if they are dependable, and how to judge their outputs critically. Lacking a deep understanding of how those AI tools are processing data, making predictions, or reproducing biases, students will also use them uncritically, and lose out on opportunities for situated and ethical learning. Therefore, this study emphasizes the need for explicit teaching and training in AI competence not only to be able to work with AI tools, but also to be able to question and critically evaluate AI technology in a responsible way.

Second, ChatGPT and Google Translate were observed to be the two tools most commonly employed by students in the process of language learning, and that is further evidence of the appeal that self-support tools with immediate on-the-fly support for language learning can have. On the other hand, some other great resources such as Duolingo and the Text-to-Speech are not used enough, expressing the necessity of informing about the synergy between AI technologies, especially between listening, pronunciation and text-to-speech. Therefore, it is of crucial importance for teachers to provide learners with explicit guidance on AI-powered tools choice, evaluation, and combination in accordance with their learning objectives to make sure that learners develop a balanced, comprehensive, and sustainable language skills.

In addition, although most students appreciated the effectiveness of AI-powered tools for writing, translation, and handling academic language, some students were still sceptical or less experienced with their applications to speaking and listening skills. This result highlights the importance of designing integrated instruction that familiarizes learners not only with generative and text-corrective AI tools but also with tools aimed at oral language development. Based on this result, it is suggested that teachers should design classroom tasks that use tools such as the Text-to-Speech or voice enabled chatbots to offer learners opportunities to practise their pronunciation, rhythm and listening skills with AI enhanced feedback. In addition, teachers can help to make students aware of their assumptions and concerns about AI and oral skills, in order to overcome hesitance and underestimation towards these tools.

Last but not least, the fact that the students overestimated their AI competency suggests the lack of deep understanding of AI basics and mechanisms, as wells as ethical considerations related to using AI responsibly. This finding implies that current usage may foster superficial familiarity, rather than deep, strategic, and responsible engagement. Students might know how to enter prompts, get corrections or produce text, but may not have a sense of how AI systems are making decisions, what knowledge they’re mining or how bias and misinformation work their way into the results. Lacking this aspect of intellectual inquiry, learners may risk merely being consumers of AI -users who interface with products but are clearly not able to critically question the validity and appropriateness of the result. Teachers can involve students in introductory AI concepts that build knowledge about how AI systems function, and what algorithms and training data sets are, and how these things influence the text generated by tools such as ChatGPT or Grammarly. Moreover, ethical and responsible use of AI in the curriculum is also needed to facilitate students’ learning of data privacy, academic integrity/plagiarism, algorithmic bias and risks of overdependence or misuse in academic environments. Such critical reflections tasks, involving analysis of AI outputs, comparing several tools, and justifying decisions, can, furthermore, serve to make learners not only regular users of AI but also informed, reflective and responsible users in the context of their language learning.

There are some limitations existing in the present study. Firstly, self-reported data is used for the evaluation of AI ability. Thus, the result is not always consistent with the reality as the results of this study showed. A test-based measure was also included to reduce the impact of this, but the self-assessment part could still be affected by social desirability bias or overestimate. Second, given the region specific educational and cultural context, the results may not be widely or cross-culturally applicable. Students’ access to, familiarity with, and institutional support for AI tools, on the other hand, may be markedly different in other settings, and could be likely to impact their skills and use of AI as a result. Furthermore, the study examined the use of AI tools within language learning contexts without investigating the pedagogical approaches or instructional conditions of implementing AI tools. Therefore, it did not consider the impact of teacher mediation, curriculum, and collaborating with peer students, in regard to students’ engagement with AI. Finally, it explored use frequency and perceived effectiveness of use, however, it did not assess learning outcomes or measure whether student’s dependant on AI tools sustained improvements in particular language skill areas. These acknowledged limitations indicate more longitudinal, mixed-methods research to explore not just the what and how of the AI tool use, but the why and with what effects.

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# Acknowledgments

The authors would like to express special thanks to Faculty of Foreign Languages, HCMC University of Foreign Languages and Information Technology and all the students participated in the current study for all the necessary support for the completion of this study.

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