

Integrating ChatGPT to Enhance University Students' Communication Skills: Pedagogical Considerations

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Abstract

This research examines the impact of integrating generative AI (ChatGPT) on 93 Thai university students' English communication skills and their perceptions of AI integration. Initially, the students completed a video-recorded conversation simulation on a predetermined topic to be assessed using a scoring rubric, representing their pre-simulation performance. Subsequently, the students engaged in structured instruction. They collaborated in small groups with ChatGPT to create conversation scripts on the same topic, which they later used for post-simulation video recordings, representing the post-simulation performance. A focus group discussion with ten randomly selected participants was conducted to explore the students' perceptions. A comparison of pre- and post-simulation scores revealed significant improvements, particularly in fluency, vocabulary usage, and overall communication skills. Additionally, focus group findings indicated highly positive sentiments about ChatGPT, emphasizing its role in reducing anxiety, promoting creativity and enthusiasm, and enhancing the interactivity and enjoyment of language learning. This study underscores ChatGPT's potential as a valuable resource in language education, particularly when combined with teacher support and oversight. By generating scripts grounded in sound pedagogical principles, AI creates an interactive environment for enhancing conversational English, fostering active engagement, and meeting students' diverse learning needs. Although the findings are promising, the research highlights the necessity of aligning AI implementation with pedagogical principles to guarantee valuable learning experiences. This research contributes to the expanding field of literature on AI in education, offering insights into how tools like ChatGPT can enhance communication abilities and prepare students for real-world applications in academic and professional contexts.

Keywords: AI experience, AI implementation attitudes, ChatGPT, English language learning, speaking skills, Thai students

1. Introduction

The rapid advancement of technology has significantly impacted numerous aspects of life, including education. Among these technological advancements, AI has surfaced as a groundbreaking element, particularly in language learning. In an increasingly interconnected world, English has established itself as the global lingua franca, making language proficiency an essential asset. This scenario is especially relevant in non-native English-speaking countries, where English proficiency correlates with enhanced social mobility, career advancement, and academic achievement. Thailand has prioritized English language education across all levels of its educational system (Sahan et al., 2023). Despite these efforts, many Thai students still encounter considerable challenges in achieving English language proficiency, often due to a combination of factors, including limited exposure, outdated instructional methods, teachers' inadequate English skills, students' low motivation, and sociolinguistic barriers (e.g., Durongkaveroj, 2023; Kanoksilapatham, 2023).

Within the realm of language teaching, AI-driven tools like ChatGPT offer potential solutions to these challenges. ChatGPT is an AI language model that is capable of engaging users in human-like conversations, offering immediate feedback and interactive learning experiences. These features could help address persistent challenges in language education, particularly in contexts where access to proficient English speakers or quality language instruction is restricted. By providing personalized, on-demand language practice, ChatGPT could enhance learning experience, helping students develop both their linguistic proficiency and confidence in using English in real-life situations (e.g., Ali et al., 2023; Al-khresheh, 2024; Kostka & Toncelli, 2023; Shaikh et al., 2023; Xiao & Zhi, 2023).

Although research on AI in education is expanding, a significant gap remains regarding the specific effects of tools like ChatGPT on language learning outcomes, particularly in non-Western settings. Most existing research on AI in education has focused on Western or global contexts (Shaikh et al., 2023; Vázquez-Cano et al., 2023; Von Garrel & Mayer, 2023), where linguistic and cultural factors differ greatly from those in Thailand. Furthermore, while AI literature continues to grow, much of it focuses on technical aspects, such as technological development and AI's application across various academic disciplines (e.g., Haleem et al., 2022; Kalla et al., 2023 in educational administration; Nemorin et al., 2023 in economics).

In language education, studies typically explore AI's role in assessment (Moqbel & Al-Kadi, 2023), second language learning (Kim et al., 2023), or its impact on Thai English teachers (Ulla et al., 2023). However, little empirical evidence exists on how generative AI tools like ChatGPT can be effectively integrated into Thai university programs. Given Thai learners' unique challenges—such as the influence of Thai phonology and syntax on English acquisition (Pechapan-Hammond, 2020), sociocultural factors affecting motivation (Kanoksilapatham et al., 2021), and the role of self-regulated learning (SRL) (Kanoksilapatham, 2023)—examining ChatGPT's impact on Thai students' English learning is particularly relevant.

The English language education situation in Thailand was further exacerbated by the availability of commercial textbooks for workplace communication, which primarily depict Western scenarios, reducing their relevance for Thai students. These materials often emphasize cultural contexts that may not align with Thai students' experiences, potentially leading to disengagement. Consequently, students may struggle to connect with the content, impeding their capacity to cultivate essential communication skills necessary for their career advancement (Alhamami & Ahmad, 2018; Rashidi & Safari, 2011).

To address these gaps, this study investigated ChatGPT's facilitative role in Thai students' English language learning experiences. Specifically, it integrates AI-generated conversation scripts tailored to Thai cultural contexts. The study employs a mixed-methods approach, with quantitative data derived from pre- and post-simulation performance assessments and qualitative insights from a focus group discussion session. The findings illustrate ChatGPT's potential in enhancing language learning, including conversational clarity, fluency, and confidence.

The importance of this study lies in its contributions to existing knowledge on AI in education and its practical implications for educators, policymakers, and technology experts. By providing empirical evidence on ChatGPT's effectiveness within the Thai higher education context, this research offers insights for developing educational tools better tailored to the specific needs of Thai students. Furthermore, the findings may help educators integrate generative AI tools into conventional teaching practices, ultimately improving the overall quality of English language instruction in diverse higher education settings. Moreover, this study identifies potential challenges in using ChatGPT for language learning, such as language accuracy issues, interaction quality, and the risk of over-reliance. By addressing these concerns, this research provides a comprehensive evaluation of ChatGPT's value for language learning, emphasizing both its benefits and the critical factors for successful implementation.

2. Method

This study used a mixed-methods approach, combining quantitative and qualitative research methodologies to comprehensively examine ChatGPT integration in enhancing English communication skills among Thai university students. Statistical analysis of pre- and post-simulation assessments represents the quantitative method to measure language proficiency improvements, while the qualitative aspect consists of a focus group discussion aimed at collecting detailed insights into students' experiences and views utilizing ChatGPT as a learning tool. This dual approach enables a richer understanding of the effectiveness and pedagogical implications of generative AI in language education.

2.1 Objectives

This research explored generative AI, specifically ChatGPT, as a tool in a language classroom to enhance English skills among Thai university students. The objectives are twofold: (1) to examine the facilitative role of ChatGPT in improving Thai university students' English language learning and (2) to investigate the students' attitudes toward ChatGPT integration in providing customized and tailored learning materials.

2.2 Context and Participants

This research was situated at a mid-size public university in western Thailand, involving students in the Engineering Business program who enrolled in a compulsory English course titled "Communicative English in Engineering Business." This course emphasizes English communication skills relevant to various business and engineering contexts, preparing students for professional interactions.

The study involved 93 third-year university students aged between 20 and 22 years old. Before this course, the students completed four English courses: two general English courses in their first year and two applied science English courses in their second year. Due to the Engineering Business program's primary focus on content delivered in Thai, there was limited attention to English, resulting in students generally having underdeveloped English skills. The course teacher is a Ph.D. holder who brought a substantial amount of knowledge and expertise to the course.

2.3 Instruments

Two instruments were developed to address the two objectives of this study. Based on the modifications of the relatively recent rubrics for oral tasks (Block & Mancho-Bar  s, 2020; Nadolski et al., 2021; Vercellotti & McCormick, 2021), a scoring rubric was modified to assess the students' communication skills demonstrated through role-play video recordings. The rubric, totalling 15 points, assesses three components—intelligibility, fluency, and delivery—each rated on a five-band scale (see Figure 1).

Criteria	5	4	3	2	1
Intelligibility	<ul style="list-style-type: none"> Accurate pronunciation of individual sounds, word stress, and word endings Pronunciation does not impede communication. 	<ul style="list-style-type: none"> Accurate pronunciation of individual sounds, word stress, and word endings Pronunciation rarely impedes communication. 	<ul style="list-style-type: none"> Fairly accurate pronunciation of individual sounds, word stress, and word endings Pronunciation occasionally impedes communication. 	<ul style="list-style-type: none"> Inaccurate pronunciation of some individual sounds, word stress, and word endings, which interfere with comprehensibility Pronunciation impedes communication. 	<ul style="list-style-type: none"> Major inaccuracies with pronunciation of individual sounds, word stress, and word endings, which causes significant problems in intelligibility Pronunciation severely impedes communication.
Fluency	Speaks smoothly without hesitation and with ease	Speaks with one or two pauses and/or hesitations which do not interfere with comprehensibility	Speaks with some pauses and/or hesitations which sometimes interfere with comprehensibility	Speaks with some pauses and/or hesitations, and/or short phrases which interfere with comprehensibility	Speaks with many significant pausing, hesitations, and/or short phrases which interfere with comprehensibility
Delivery	<ul style="list-style-type: none"> Eye contact- Always establishes eye contact with the members of the group Interaction- Always interacts effectively with the members of the group Naturalness- Physical gestures are always natural and fluid. Speaker appears relaxed and comfortable. Enthusiasm- Physical gestures always demonstrate the speaker's energy and interest. 	<ul style="list-style-type: none"> Eye contact- Establishes eye contact with the members of the group very often Interaction- Mostly interacts effectively with the members of the group Naturalness- Physical gestures are mostly natural and fluid. Speaker appears relaxed and comfortable. Enthusiasm- Physical gestures demonstrate the speaker's energy and interest very often. 	<ul style="list-style-type: none"> Eye contact- Occasionally establishes eye contact with the members of the group, seldom reading from notes Interaction- Occasionally ignored the members of the group Naturalness- Physical gestures are fairly natural and fluid. Speaker appears fairly relaxed and comfortable. Enthusiasm- Physical gestures occasionally demonstrate the speaker's energy and interest. Establish little or no tension and recovers quickly 	<ul style="list-style-type: none"> Eye contact- Occasionally establishes eye contact with the members of the group, but still returns to notes sometimes Interaction- Sometimes reads notes and ignored the members of the group Naturalness- Physical gestures are little natural and fluid. Speaker appears anxious and uncomfortable. Enthusiasm- Almost no physical gestures demonstrate the speaker's energy and interest. Establish mild tension 	<ul style="list-style-type: none"> Eye contact- Hardly establishes eye contact with the members of the group, while reading mostly from notes Interaction- Reads notes rather than speaking, and largely ignored the members of the group Naturalness- Physical gestures are missing or awkward. Speaker appears very anxious and uncomfortable. Enthusiasm- No physical gestures demonstrate the speaker's energy and interest. Establish high tension and cannot cope with nervousness

Figure 1. Scoring rubric to assess conversation simulations recorded as video clips

For the second objective, four focus group questions were prepared to gauge students' attitudes toward ChatGPT's use: 1. What language knowledge and skills did ChatGPT help you acquire? 2. What do you think of the conversation scripts generated by ChatGPT? 3. What are some advantages and disadvantages of using ChatGPT in the classroom? and 4. How do you see the role of ChatGPT integration in future language instruction?

2.4 Pre-Simulation Task

The course's initial seven-week period focused on developing fundamental English skills, including grammar, business vocabulary, and pronunciation, which prepared students for the subsequent four weeks of study. Students completed a pre-simulation task to evaluate their English communication abilities before interacting with ChatGPT through the subject "Eating out at a Thai restaurant." This topic encompasses numerous communication techniques. Specifically, the restaurant scenario allows the students to practice hospitality skills, including initiating conversations, offering advice, and engaging in small talk. Together, this scenario enhances the students' professional relevance and engagement, which in turn helps them form and maintain professional connections.

The teacher shared the scoring rubric with the class, detailing the requirements for the video submissions and helping the students focus their efforts on meeting the desired learning outcomes. Within one week, groups of three students executed the simulation task and recorded their simulation as video clips. It is noted that video clips replaced in-class role plays, providing flexibility while accomplishing the learning goals and accommodating the students' time constraints. At this stage, to ensure consistency in rating the simulated videos, the first author provided a training session on how to rate the recorded simulations based on the predefined scoring rubric to two independent raters: the course instructor and another experienced English university instructor. Inter-rater reliability (IRR) was assessed using Cohen's kappa, which accounts for agreement beyond chance. Overall, inter-rater reliability for the simulation rating was strong, with Cohen's kappa = 0.965, indicating substantial agreement between raters across the three constructs. Specifically, the IRR values for intelligibility (0.945), fluency (0.858), and delivery (0.966) further confirm substantial agreement. The high value of Cohen's kappa also indicates that the rubric is not only clear and executable but also the simulation ratings are reliable.

2.5 Instructional Procedures

The four-week project featured one 150-minute session each week. Week 1 familiarized the students with ChatGPT, covering its role in language learning, how it works, and practical applications for generating conversation scripts. The students experimented with prompts they created, gaining insight into prompt crafting. The following three weeks were devoted to the chosen simulation topic "Eating out at a Thai restaurant." The following sections describe the instructional activities conducted during Weeks 1 to 4.

2.5.1 Week 1: ChatGPT Introduction

The introduction of ChatGPT includes an overview of the impact of technology on language learning. Additionally, the background and functionality of ChatGPT were explained to the students to provide a comprehensive understanding of how it could contribute to

enhancing their English skills. Subsequently, the students were engaged in group work, where they explored ChatGPT’s potential in language learning by taking part in a practical exercise entitled “Town visit,” devised by the course teacher. This exercise included a scenario relevant to their interests, using the teacher-crafted prompt: “Please create a chain of conversation involving three people: one international visitor and two local employees showing the visitor around town.” The generated 522–word script featured three interlocutors (Alex, an international, and two Thais, Nina and Pong), including conversational elements related to Thai culture and popular landmarks in Bangkok. A brief section of the generated output is presented in Figure 2.

Alex:	Hi Nina and Pong! Thanks for taking the time to show me around. I’ve heard so much about Bangkok, and I’m really excited to explore the city.
Nina:	Hi Alex! We’re glad to have you here. We have a great itinerary planned for today. How was your flight?
Alex:	Long, but good. I managed to get some sleep, so I’m feeling quite refreshed. Where are we heading first?
XXXXXXXXXXXXXXXXXXXX	
Pong:	Here we are! The Grand Palace. It’s a huge complex, so we’ll spend some time exploring.
Alex:	Wow, it’s even more beautiful in person. I can’t believe how intricate the details are.

Figure 2. “Town Visit” script generated by ChatGPT

The entire class examined the conversation script, highlighting its strengths and areas for improvement. The students appreciated the quick output from ChatGPT, which modeled excellent English and a genuine conversation. The characters and setting in Bangkok were relatable, featuring local culture, famous attractions, tuk-tuk rides, and iconic Thai dishes like Som Tum and Mango Sticky Rice.

However, several concerns were raised by the students. They were attending university in the western region of Thailand; they felt that, although usual, the emphasis on Bangkok was less pertinent. Adapting the setting to familiar locations for them would increase authenticity and practicality. They also noted that the conversation length (522 words) might be too daunting for a subsequent simulation task. They requested a shortened script of around 170–200 words to make it more manageable. Additionally, imbalances in conversation length among characters could lead to uneven participation. Establishing a word limit per character could help create a fairer task. Another challenge was the use of sophisticated vocabulary (e.g., “intricate,” “vibrant” – CEFR level of C1), which hindered understanding. Managing vocabulary or pre-teaching these terms would enhance accessibility. Overall, the output analysis suggests that detailed prompts can assist in directing ChatGPT to produce balanced and accessible outputs. That is, imposing word limits, diversifying content, and contextualizing scenarios might enhance learning experiences even more. Following this initial practical experience with ChatGPT, the teacher encouraged the students to assess their skill in crafting effective prompts on topics of their choice, either in Thai or English.

2.5.2 Week 2: Task Development and Prompt Customization

Based on the analysis of ChatGPT output on the topic of “Town Visit,” the instructor provided students with a list of ten simple vocabulary words/phrases associated with the topic. For instance, “Eating Out at a Thai Restaurant” included the selected vocabulary items/phrases: curry, dish, flavor, variety, serving spoon, fork and spoon, knife, plate, enjoy, and rice. The Week 2 instruction covered various aspects of these terms, including meanings, pronunciation, syntax, and grammar, to provide the students with comprehensive practice, enhancing their vocabulary retention and solidifying their understanding for practical use.

The teacher then crafted a flexible prompt that aligned with the lesson topic, allowing the students working in groups of three (31 groups in total) to choose seven words/phrases from a given list to incorporate into their prompts (Figure 3).

<p>Prompt: Two Thai locals who are the staff members from a company were asked to accompany the company’s American visitor to dine at a traditional Thai restaurant. Please create a conversation among three participants on the topic “Eating out at a Thai restaurant.” The conversation should be about 150-170 words. All three participants should have about the same contribution to the conversation. The conversation script created must contain the following seven words/phrases: xxxxxxxx (but not necessarily in this order).</p>

Figure 3. Teacher’s Prompt: Eating out at a Thai restaurant

In so doing, the fundamental similarities required for successful communication were preserved while encouraging variation in ChatGPT outputs. At this point, the students were urged to collaboratively adjust their prompts to suit their selected words/phrases. Once the students finalized the prompts, they were fed to ChatGPT.

2.5.3 Week 3: Output Reviews and Revisions

In Week 3, the students collaboratively reviewed their ChatGPT outputs to ensure they adhered to the prompts (e.g., equal contributions, inclusion of selected words/phrases, etc.). If any criteria were unmet, they revised the prompt until all was correct. Once finalized, they submitted their generated outputs to the teacher for review and approval. The teacher’s review of 31 ChatGPT outputs ensured that the content was comprehensible and suited to the students’ proficiency levels, avoiding overly complicated vocabulary and grammar that might impede understanding and simulation. Figure 4 shows a complete ChatGPT output with the selected words/phrases highlighted in bold. Teacher-made modifications, such as substituting challenging words/phrases, are indicated with a strikethrough, aligning the language with the students’ proficiency level. The teacher then returned the edited and polished scripts for the students to enact role plays or simulations to be recorded on video the following week. In case of difficulties understanding the changes, the students were urged to discuss them with the

teacher.

Interlocutors: Thai local 1, Thai local 2, and Visitor	
Selected words: <i>variety, flavor, serving spoon, fork and spoon, knife, rice, and curry</i>	

Thai local 1:	Welcome to the traditional Thai restaurant! We're glad you could join us for this meal.
Thai local 2:	Yes, it's great to have you here. Thai meals are all about enjoying a variety of flavors .
Visitor:	Thank you both. I'm excited to try some <i>real</i> Thai dishes. Can you tell me how to properly enjoy a typical Thai meal?
Thai local 1:	Of course! In Thailand, we usually share dishes family-style. The dishes are placed in the center, and we all serve ourselves using a serving spoon .
Thai local 2:	That's right. And we use a fork and spoon to eat. The fork is used to push food onto the spoon; no knives are necessary.
Visitor:	That's interesting. What about rice ?
Thai local 1:	Rice is <i>an important part of Thai meals</i> . It's served on your plate, and you can take small amounts as you eat, along with the dishes.
Thai local 2:	And don't forget the curries ! Thai curries are rich in flavor and usually come with meat or vegetables. You can <i>put</i> the curry over your rice.
Visitor:	That sounds delicious. I'm not used to so many flavors at once.
Thai local 1:	Don't worry, just take your time and <i>enjoy</i> each dish. The combination of flavors is what makes Thai meals special.
Thai local 2:	Exactly. And be sure to try a bit of everything to fully enjoy the variety.
Visitor:	Thank you both for explaining. I'm looking forward to this experience.
Thai local 1:	Our pleasure! Let's enjoy this meal together.
Thai local 2:	Yes, let's enjoy this traditional Thai dining experience!

Figure 4. Example of the conversation script generated by ChatGPT (eating out scenario)

2.5.4 Week 4: Post-Simulation Task

This phase during Week 4 reinforced the students' communication skills and prepared them for the final task: producing video clips demonstrating their ability to engage in role plays or conversations. The students were encouraged to seek help, if necessary, from online resources to improve their simulations.

In summary, in the initial lesson on ChatGPT overview, the students were engaged in practical language use and technology integration. Then, over three consecutive weeks devoted to the topic, the lesson focused on task development and prompt customization, during which the students explored scenarios like escorting a customer to a Thai restaurant, pre-selected by the students as a genuine and realistic conversation they were likely to encounter in their career. In the subsequent lesson, the students submitted their ChatPGT-powered conversation drafts for teacher evaluation. The teacher made comments and necessary revisions to ensure the script's clarity, accuracy, and practicality. Finally, using the polished scripts, the students participated in a more interactive simulation task and produced a role-play video clip. The course teacher collected the clips, and the same two assessors (the course instructor and another university English teacher) evaluated the clips using the developed scoring rubric.

2.6 Data Collection

This study employed both quantitative and qualitative data collection. A rubric-based assessment of pre- and post-video-recorded simulations provided quantitative data on the students' performance. Qualitative insights into the students' experiences and attitudes were gathered from a focus group session conducted in Thai with ten randomly selected participants. The session occurred near the end of the course in a classroom for 45 minutes, emphasizing four discussion questions to gauge ChatGPT's effectiveness and possibilities for future use in language learning. The collected data were anonymized to conceal the participants' identities. Informed consent was acquired from the participants regarding data collection.

2.7 Data Analysis

Quantitative analysis was employed to assess the students' language skills during simulation performances, according to the standard set in the scoring rubric that emphasizes three criteria (intelligibility, fluency, and delivery), totalling a maximum of 15 points. Similar to the pre-simulation assessment, inter-rater reliability of the two raters was assessed using Cohen's kappa.

To determine the impact of ChatGPT integration in crafting the scripts, a paired sample t-test was conducted on the pre- and post-simulation scores. Meanwhile, interview data were qualitatively analyzed using content analysis, pinpointing patterns and themes concerning ChatGPT's supportive function in language learning and the attitudes toward its incorporation among the ten students (S1-S10, henceforth). This procedure included the exact transcribing of the focus group data. Through multiple readings of the transcripts, initial insights into developing themes based on patterns in the data were formed, reflecting the analytical coding framework. Utilizing this framework created, the first author confirmed the themes. In reality, this coding phase was aided by important keywords expressed by the focus group participants (e.g., grammar, vocabulary, pronunciation). The combined analysis provided a thorough insight into the effects of ChatGPT on language learning for Thai university students and informed potential enhancements for future implementations.

3. Results

The primary goal of this study was to explore the harnessing of ChatGPT as a tool in a language class. This section is divided into two sub-sections, corresponding to each of the two objectives. The first objective is to assess the facilitative role of ChatGPT in enhancing 93 Thai third-year university students’ English language learning through a pre- and post-simulation activity. The performance of the post-simulation task was scored out of a maximum of 15 points (5 points for each of the three categories: intelligibility, fluency, and delivery). In the same vein, inter-rater reliability was assessed. Overall, inter-rater reliability for the post-simulation rating was stronger, with Cohen’s kappa = 0.980, indicating a slightly higher level of substantial agreement. Specifically, the IRR values were 0.960 for intelligibility, 0.915 for fluency, and 0.905 for delivery, confirming strong agreement.

3.1 Students’ Simulation Performance and Key Assessment Areas

Descriptive statistics revealed that the mean score of the pre-simulation task was 12.86 out of 15. In the post-simulation task, the mean score was raised to 13.28, yielding a mean difference of 1.42. At this juncture, it is interesting to examine three key assessment categories (intelligibility, fluency, and delivery), which were scored independently by the two university instructors, providing insights into the students’ multifaceted communication abilities. First, for intelligibility, the mean score of the pre-simulation task was 3.90 out of 5, as opposed to the post-simulation mean score of 4.02. As for fluency, in pre-simulation, the average fluency score was 4.42, and the fluency score in the post-simulation was 4.57. The minor improvements in intelligibility and fluency in the post-simulation reflects the students’ enhanced ability to express ideas clearly, smoothly, and without unnecessary pauses. Finally, the delivery score for pre-simulation was 4.54, and it rose to 4.69 in post-simulation. The slightly higher delivery ratings in the post-simulation reflect that the students performed quite well in terms of effective use of non-verbal cues, body language, rhythm, gestures, and eye contact. These quantitative data were summarized in Table 1.

Table 1. Students’ simulation performance assessments

Assessments (15 in total)	Intelligibility (5)	Fluency (5)	Delivery (5)	Mean (15)
Pre-simulation scores	3.90	4.42	4.54	12.86
Post-simulation scores	4.02	4.57	4.69	13.28

To establish whether the mean scores across the pre- and post-simulations is significant, a paired-sample t-test was conducted. The results showed a significant improvement from the pre- (M = 12.82, SD = 0.8) to the post-simulation (M = 13.28, SD = 0.8), with a mean difference of 1.42. The t-test yielded $t(92) = -17.16, p < .001$, confirming a statistically significant difference between pre- and post-simulation scores.

3.2 Students’ Attitudes toward ChatGPT

The second objective of this study is to examine the students’ attitudes and perceptions toward ChatGPT integration. Qualitative data from the 45-minute focus group session focusing on each of the four questions with ten randomly selected students provides further insights into the students’ perspectives on ChatGPT in their language learning. Focus group data analysis associated with individual questions was performed using content analysis. The analysis results coded according to themes are as follows:

3.2.1 Q1: What Language Knowledge and Skills did ChatGPT Help you Acquire?

Based on the content analysis, the students were quite outspoken in response to this question. They agreed that ChatGPT was helpful for specific areas of the English language components and language skills. The following sections display views and thoughts about the knowledge gained from ChatGPT integration by the themes identified by content analysis.

Grammatical competence: Several students advocated the significance of AI in elucidating specific grammar knowledge. For instance, S2 referred to the tenses in the ChatGPT-generated conversation scripts, allowing her to review this grammar point again, especially in context. S9 noticed the preposition “to” in the sentence “I look forward to seeing you soon.” Admittedly, he misunderstood that the verb that follows “to” must be infinitive, as in the sentences “I want to buy” or “I’d like to order.” At one point, he even wondered if ChatGPT was incorrect. So he googled the phrase “look forward to,” and then he understood that the word “to” in the phrase “look forward to” must be followed by a verb-ing or a noun. These examples congruently highlighted the insights and improved understanding in English grammar (tense and verb pattern, respectively). Although the aforementioned grammar points were previously taught, the ChatGPT-composed outputs interestingly clarified and elucidated their grammatical knowledge while serving as a practical reference to reinforce grammar learning.

Vocabulary repertoire: Another area that the students believed they benefited from ChatGPT integration was vocabulary acquisition. S4 referred to the word “dish” used in the generated script, referring to the food to be served. Before this, she believed that word only meant a plate; however, ChatGPT showed her the word “dish” and its extended meaning in context. In addition, S8 admitted that he knew the word “flexible,” but now, from the ChatGPT output, he learned another word derived from it, “flexibility”. In short, ChatGPT offered significant benefits in enhancing vocabulary, making the students better understand how the words were used in context.

Speaking skills: As for language skills, the scripts generated by ChatGPT have exerted a substantial impact on enhancing speaking skills. S8 admitted that she could not speak or express herself in English. Her lack of confidence made her worried about communicating in

English. But when she got ChatGPT to help with drafting the conversation, things became easier for her. She had more time to practice English speaking the lines with friends before recording the clip. Now, with the scripts to rely on and with confidence, she could focus on improving conversation skills.

Pronunciation accuracy: As encouraged by the class teacher, other online resources could be consulted. S7 and S10 were adventurous and found that the ChatGPT output facilitated by online resources, such as an online dictionary and a read-aloud function, could be informative and educational. S7 believed that the ChatGPT conversations were correct. So, he copied and pasted them into the word program, selected the Read Aloud function, and practiced speaking along. By doing this, he realized that there were many words that he had pronounced wrong all along, including the word “suggest.” S10 shared her experience that when she came across a word that was challenging to pronounce, she could use an online dictionary app that shows both the word and its pronunciation. Having several digital resources available, things seemed to be easier. As shown, these students contended that, because of the performance task assigned, they were challenged to go to a new level of learning by exploiting additional digital sources to improve their pronunciation of English.

Overall, the students acknowledged that they gained grammatical knowledge from the scripts generated by ChatGPT in addition to vocabulary. They were confident that ChatGPT would generate scripts with proper grammar and vocabulary use. With such confidence, they could perform the required tasks in English. As for language skills, ChatGPT helped their speaking and pronunciation development. Without the need to spend time composing their conversations (that are likely to be grammatically and lexically incorrect), they invested their time rehearsing their lines for the video clips roleplays.

3.2.2 Q2: What do You Think of the Conversation Scripts Generated by ChatGPT?

Despite the students' general perception of the flawless linguistic quality of the ChatGPT outputs, as presented above, few students made interesting points about ChatGPT's task execution. S3 remarked that the ChatGPT output on command was not 100% correct. When prompted to create a conversation with the seven words required, the output had only six words. Several rounds of feeding new prompts were made until a conversation that included all the words needed was generated. S6 observed that ChatGPT could not flawlessly execute the task. ChatGPT was confused about asking and answering questions in groups. For example, customer A asked B a question. After B answered A, C (instead of B) asked A, “Did you understand what I explained, Mr. A.?” In short, while students valued ChatGPT's linguistic precision, they noticed occasional issues with task execution based on specific prompts. These issues reflect limitations in ChatGPT's task handling.

3.2.3 Q3: What are Some Advantages and Disadvantages of Using ChatGPT in the Classroom?

This question is quite intriguing, revealing what the students went through during the stages of ChatGPT introduction and implementation. On the positive side, it is clear that ChatGPT substantially saved time, reduced stress, and enhanced motivation to complete assignments. As echoed by S7, without ChatGPT, he would feel very stressed about conversation assignments, which were previously time-consuming and required multiple rounds of correction. S8 cheerfully added that it was the first time the group submitted their English assignment before the deadline. Thanks to ChatGPT, they did not have to worry about grammar when sending the script to the teacher because ChatGPT had already taken care of this part.

However, the downsides of ChatGPT integration as a learning tool cannot be ignored either. S9 shared his experience of creating prompts for ChatGPT. But the conversations received did not quite follow the prompts. As a result, he was obliged to use the teacher's prompts. At this point, he realized that the person using AI must be proficient in English at a certain level. Unfortunately, he was not one of them. S10 added that she tried comparing her conversations with the others' on the same topic. She noticed some sentences in her script that were identical to those of the others, even though they did not choose the same keywords. Because different sets of words were fed, the same sentences should not have been produced.

To sum up, the students realized that prompt quality affected output accuracy. In addition, ChatGPT tends to generate comparable outputs in response to marginally varied prompts, reflecting limited variety, naturalness, and spontaneity. Therefore, being proficient in English while creating prompts is essential to achieving the necessary and precise results as well as making the most of ChatGPT.

3.2.4 Q4: How do You See the Role of ChatGPT Integration in Future Language Instruction?

All students congruently agreed that they would like to see their teachers integrating ChatGPT into language learning in the future. Here are some of their specific views on this question. S1 would like teachers to give instructions on how to develop a variety of prompts so that she could apply that knowledge in doing more diverse activities and in other subjects. Teachers may use ChatGPT to design game-based language learning activities to help students develop language skills while having fun. This promotes good attitudes toward language learning for students. S5 suggested that teachers may design additional language learning activities, as group or individual activities, by having students use ChatGPT and other online tools or AI programs. Then, the advantages and limitations regarding the use and results were compared and discussed in class. This would help students develop skills in working with others and sharpen their analytical thinking skills.

In short, the qualitative data analysis revealed that ChatGPT integration offered several benefits. For instance, the AI-generated responses are both grammatically correct and lexically accurate. This precision helps students build their language skills in a supportive environment, fostering greater confidence and enthusiasm in their abilities. Increased confidence, in turn, positively impacts their speaking skills, as students feel better prepared and less anxious about making mistakes. However, some drawbacks of the outputs were identified that require further attention.

4. Discussion

Based on the scripts generated, the students' satisfactory communicative performance is shown by the high scores in the task across all three areas (intelligibility, fluency, and delivery), as determined by the evaluation of the students' simulated performances captured in the video clips. The students performed marginally better on the post-simulation task, with modest variations in their intelligibility, fluency, and delivery ratings. The rise in scores implies the students' growing familiarity with the task. This phenomenon was previously observed by Javaid et al. (2023), who contend that the improved communicative performance is contributed by ChatGPT's role in aiding and expediting script preparation while allowing the students to focus on improving delivery and refining their performances. With the scripts generated, ChatGPT also assisted the students in generating ideas, organizing their thoughts, and practicing communication in English, all of which contributed to their strong performance of the task.

The study's findings specifically reveal that ChatGPT plays a beneficial role in grammar development. The students acknowledged that ChatGPT had been helpful in elucidating complex grammatical concepts that they had previously misunderstood. Alharbi (2023) asserts that AI tools or technology can reinforce grammar instruction by providing learners with contextualized and individualized examples that simplify abstract rules. According to the students' remarks, which indicated that regular exposure to AI-generated examples increased their understanding of grammar ideas, the students in this research appeared to gain from this advantage.

Similarly, ChatGPT's contribution to vocabulary learning was widely recognized. Exposing students to new vocabulary and alternative meanings of familiar words could expand their lexical knowledge. This vocabulary development process is consistent with Hadley et al.'s "word depth" theory (2019), which highlights the significance of learning how to use words in various situations in addition to their meanings. The AI's ability to generate sentences utilizing new vocabulary terms allowed students to observe practical and actual usage, which promoted their retention and comprehension. The outcomes of the focus group discussion session are also compatible with those from prior studies (Kostikova et al., 2024; Newton & Nation, 2020), which indicate that digital technology improves vocabulary learning by exposing students to a variety of vocabulary.

As for speaking, the students who used AI-generated scripts reported they felt more confident and competent when performing the video clip task. The pre-prepared conversations gave students a foundation, allowing them to concentrate on honing their delivery skills rather than struggling with content creation. This echoes the findings from a previous research study where AI tools could reduce anxiety and provide scaffolding for language learners, thus encouraging more frequent practice (Godwin-Jones, 2021). By offering ready-to-use scripts generated by ChatGPT, the students can dedicate more time to rehearsal, likely enhancing the observed improvements or gains in speaking abilities.

Regarding pronunciation, some students sought additional help from digital resources to practice proper pronunciation, demonstrating ChatGPT's potential to inspire learners to look out for supplementary resources. The findings imply that when the students have confidence in the grammatical and lexical accuracy of the content they are practicing, they are more motivated to invest effort into honing other language skills, such as pronunciation. This resonates with Celce-Murcia et al. (2010), who argue that pronunciation practice becomes more meaningful when learners engage with materials they trust or reliable materials.

The students were more aware of the ChatGPT roles, including the advantages and disadvantages of integrating ChatGPT with language learning. Instantaneous, tailored, and customized outputs are unavoidable if properly prompted. Other positive sides prevail. For example, the students reported feeling less anxious, more motivated, and more efficient in completing assignments. The learning process was accelerated by ChatGPT's capacity to automate grammatical correction and give sample conversations, with students gaining from AI's error-free output as a foundation for practice. This finding substantiates the findings of Tuanany and Nurdianto (2024), who examined the psychological impact of ChatGPT empirically investigated on Indonesian final-year university students working on their thesis in Arabic. The results showed that, although diverse strategies were employed, those who used ChatGPT agreed that it lessened their stress levels on their thesis writing journey.

AI-generated prompts, may limit opportunities for authentic language development and autonomous language use. For instance, ChatGPT's outputs may occasionally contain words or expressions that are too challenging and might not be suitable for the students' level, indicating a need for teacher intervention to ensure that AI-generated materials adhere to pedagogical standards and learners' needs. Additionally, this study revealed issues associated with ChatGPT integration. Notably, the students encountered problems with prompt execution; on occasion, ChatGPT would not incorporate all requested elements or displayed errors in conversation flow, resulting in inaccurate or irrelevant outputs. These restrictions suggest that, to create effective prompts, a greater degree of English proficiency is required, compatible with Knoth et al. (2024) and Lo (2024), who advocate the significance of prompt quality in generating quality and desirable AI outputs.

Notwithstanding its potential benefits, the downsides include dependency. The fact that similar responses are repeatedly generated indicates that ChatGPT can aid in language learning by producing customized material – something that commercial textbooks cannot offer, including the spontaneity, creativity, and originality of human or real-world conversation. This finding substantiates Xu and Wang's (2024) concerns about AI's limitation in replicating subtle and nuanced conversational patterns and cultural variations in communication which are crucial in effective communication. Therefore, monitoring these limitations is paramount to ensure that students can both make the most of the benefits of the tool and develop a well-rounded language skill set. In contingency with this, the potential over-reliance on ChatGPT might limit students' capacity to engage in independent language production or critical thinking. This ChatGPT integration for

pedagogical practices and approaches must be cautiously conducted and planned. To put it another way, teachers need to intervene to monitor the outputs to ensure that they do not impede language learning.

At this juncture, while ChatGPT and similar AIs can streamline routine tasks and expedite repetitive activities, they should not replace teachers. Rather, AIs can support teachers by automating lesson planning and material development, giving them more time for individualized student support. Embracing new technology allows teachers to create a balanced, engaging learning environment, but doing so calls for a critical perspective. Also, to encourage students to use AI responsibly, teachers should evaluate its outputs and modify them to meet the requirements of their students.

Finally, AIs may cause a change in evaluation procedures. Assessments may shift from concentrating on students' simulation performance to gauging students' critical engagement with AI outputs and their ability to use and modify AI-generated outputs to suit individual learning objectives. As this study suggests, teachers are indispensable, playing a variety of scaffolding roles in an AI-integrated classroom, from facilitators to inspirers, assisting students in using AI for language learning in a responsible manner.

5. Conclusion

This study examined the facilitative role of ChatGPT in enhancing Thai university students' English language skills through structured AI-powered conversation scripts and their attitudes toward ChatGPT integration in language classrooms. ChatGPT provides instantaneous and easily accessible feedback that may not always be possible in conventional classroom settings. With an emphasis on real-world and business-oriented scenarios, it was discovered that ChatGPT serves as a readily accessible educational resource that can lower anxiety, boost motivation, and improve students' confidence and English proficiency. Moreover, the AI-generated scripts helped the students enhance their grammar, vocabulary, speaking, and pronunciation skills in authentic, business-like contexts.

However, ChatGPT's effectiveness in language learning depends greatly on the quality and appropriateness of its outputs, particularly when applied to pedagogical contexts. Challenges, such as limitations in prompt execution and repetitive responses, highlight areas for improvement to optimize its instructional value. Consequently, even if ChatGPT offers numerous benefits, it should be complemented with teachers' intervention to enrich the learning experience.

Future research could examine strategies and methods for effective prompt construction and explore ways to incorporate AI technologies that encourage autonomous and creative language use, broadening the scope of language education in Thailand and similar contexts. Finally, this study contributes to the evolving conversation on digital language learning, underscoring the necessity of a balanced approach to AI integration that accounts for potential and limitations.

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Authors' contributions

Prof. Dr. Budsaba Kanoksilapatham played a pivotal role in this study, leading the research from its inception. She was responsible for designing the study, overseeing its implementation, and making key methodological decisions. Additionally, she designed and approved all research instruments, monitored the instructional process, and was solely the lead in drafting and revising the manuscript.

Dr. Tangpak Takrudkaew contributed as the class instructor, ensuring the study's implementation by conducting the instruction and systematically collecting the data in alignment with the study's objectives. She also read and approved the final manuscript. While Prof. Dr. Kanoksilapatham provided the primary direction and oversight, the collaboration between both authors was essential to the study's success.

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References

- Alhamami, M., & Ahmad, J. (2018). EFL teachers' attitudes toward commercial textbooks in EFL programs. *Arab World English Journal*, 9(4), 69-87. <https://doi.org/10.24093/awej/vol9no4.5>
- Alharbi, W. (2023). AI in the foreign language classroom: A pedagogical overview of automated writing assistance tools. *Education Research International*, 2023(1), 4253331. <https://doi.org/10.1155/2023/4253331>
- Ali, J. K. M., Shamsan, M. A. A., Hezam, T. A., & Mohammed, A. A. (2023). Impact of ChatGPT on learning motivation: Teachers and students' voices. *Journal of English Studies in Arabia Felix*, 2(1), 41-49. <https://doi.org/10.56540/jesaf.v2i1.51>
- Al-khreshheh, M. H. (2024). Bridging technology and pedagogy from a global lens: Teachers' perspectives on integrating ChatGPT in English language teaching. *Computers and Education: Artificial Intelligence*, 6, 100218. <https://doi.org/10.1016/j.caeai.2024.100218>
- Anderson, C. A., Gentile, D. A., & Buckley, K. E. (2007). *Violent video game effects on children and adolescents: Theory, research and public policy*. <https://doi.org/10.1093/acprof:oso/9780195309836.001.0001>
- Block, D., & Mancho-Barés, G. (2020). Not English teachers, except when they are: The curious case of oral presentation evaluation rubrics in an EMI-in-HE context. In D. Lasagabaster & A. Doiz (Eds.), *The secret life of English-medium instruction in higher education* (pp. 96-119). Routledge. <https://doi.org/10.4324/9781003005667-5>
- Celce-Murcia, M., Brinton, D. M., & Goodwin, J. M. (2010). *Teaching pronunciation: A course book and reference guide* (2nd ed.). Cambridge University Press.
- Durongkaveroj, W. (2023). Recent developments in basic education in Thailand. *Journal of Southeast Asian Economies*, 39, S20-S33. <https://doi.org/10.1355/ae39-Sc>
- Godwin-Jones, R. (2021). Big data and language learning: Opportunities and challenges. *Language Learning and Technology*, 25(1), 4-19. <https://doi.org/10.1017/S1366728921000547>
- Hadley, E. B., Dickinson, D. K., Hirsh-Pasek, K., & Golinkoff, R. M. (2019). Building semantic networks: The impact of a vocabulary intervention on preschoolers' depth of word knowledge. *Reading Research Quarterly*, 54(1), 41-61. <https://doi.org/10.1002/rrq.225>
- Haleem, A., Javaid, M., & Singh, R. P. (2022). An era of ChatGPT as a significant futuristic support tool: A study on features, abilities, and challenges. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 2(4), 100089. <https://doi.org/10.1016/j.tbench.2023.100089>
- Javaid, M., Haleem, A., Singh, R. P., Khan, S., & Khan, I. H. (2023). Unlocking the opportunities through ChatGPT tool towards ameliorating the education system. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 3(2), 100115. <https://doi.org/10.1016/j.tbench.2023.100115>
- Kalla, D., Smith, N., Samaah, F., & Kuraku, S. (2023). Study and analysis of ChatGPT and its impact on different fields of study. *International Journal of Innovative Science and Research Technology*, 8(3), 827-833.
- Kanoksilapatham, B. (2023). Thai university students' self-regulated learning in an online learning environment. *3L: Southeast Asian Journal of English Language Studies*, 29(2), 119-132. <https://doi.org/10.17576/3L-2023-2902-09>
- Kanoksilapatham, B., Khamkhen, A., Kitkha, P., & Na Nongkhai, A. O. (2021). Motivation of Thai university students from two disciplinary backgrounds using a hybrid questionnaire. *LEARN Journal: Language Education and Acquisition Research Network*, 14(1), 455-491.
- Kim, S., Shim, J., & Shim, J. (2023). A study on the utilization of OpenAI ChatGPT as a second language learning tool. *Journal of Multimedia Information System*, 10(1), 79-88. <https://doi.org/10.33851/JMIS.2023.10.1.79>
- Knoth, N., Tolzin, A., Janson, A., & Leimeister, J. M. (2024). AI literacy and its implications for prompt engineering strategies. *Computers and Education: Artificial Intelligence*, 6, 100225. <https://doi.org/10.1016/j.caeai.2024.100225>

- Kostikova, I., Holubnycha, L., Besarab, T., Moshynska, O., Moroz, T., & Shamaieva, I. (2024). ChatGPT for professional English course development. *International Journal of Interactive Mobile Technologies*, 18(2), 68-81. <https://doi.org/10.3991/ijim.v18i02.46623>
- Kostka, I., & Toncelli, R. (2023). Exploring applications of ChatGPT to English language teaching: Opportunities, challenges, and recommendations. *Tesl-EJ*, 27(3), 1-19. <https://doi.org/10.55593/ej.27107int>
- Lo, Leo S. (2024). Evaluating AI literacy in academic libraries: A survey study with a focus on U.S. employees. College of University Libraries and Learning Services (CULLS), University of New Mexico. <https://doi.org/10.5860/crl.85.5.635>
- Moqbel, M. S. S., & Al-Kadi, A. M. T. (2023). Foreign language learning assessment in the age of ChatGPT: A theoretical account. *Journal of English Studies in Arabia Felix*, 2(1), 71-84. <https://doi.org/10.56540/jesaf.v2i1.62>
- Nadolski, R. J., Hummel, H. G., Rusman, E., & Ackermans, K. (2021). Rubric formats for the formative assessment of oral presentation skills acquisition in secondary education. *Educational Technology Research and Development*, 69, 2663-2682. <https://doi.org/10.1007/s11423-021-10030-7>
- Nemorin, S., Vlachidis, A., Ayerakwa, H. M., & Andriotis, P. (2023). AI hyped? A horizon scan of discourse on artificial intelligence in education (AIED) and development. *Learning, Media and Technology*, 48(1), 38-51. <https://doi.org/10.1080/17439884.2022.2095568>
- Newton, J. M., & Nation, I. S. (2020). *Teaching ESL/EFL listening and speaking*. Routledge. <https://doi.org/10.4324/9780429203114>
- Pechapan-Hammond, S. (2020). English in Thailand. In Bolton, K., Botha, W., & Kirkpatrick, A. (Eds.), *The handbook of Asian Englishes* (pp. 629-648). John Wiley & Sons. <https://doi.org/10.1002/9781118791882.ch27>
- Rashidi, N., & Safari, F. (2011). A model for EFL materials development within the framework of critical pedagogy (CP). *English Language Teaching*, 4(2), 250. <https://doi.org/10.5539/elt.v4n2p250>
- Sahan, K., Galloway, N., & McKinley, J. (2023). The role of English and the L1 in English medium instruction at universities in Vietnam and Thailand. In Sah, P. K., & Fang, F. (Eds), *Policies, politics, and ideologies of English-medium instruction in Asian universities* (pp. 95-108). Routledge. <https://doi.org/10.4324/9781003173120-9>
- Shaikh, S., Yayilgan, S. Y., Klimova, B., & Pikhart, M. (2023). Assessing the usability of ChatGPT for formal English language learning. *European Journal of Investigation in Health, Psychology and Education*, 13(9), 1937-1960. <https://doi.org/10.3390/ejihpe13090140>
- Tuanany, U. S., & Nurdianto, T. (2024). Analysis of the using ChatGPT as coping stress. *AL-HIKMAH: International Journal of Ilamic Studies and Human Sciences*, 7(2), 1-17. <https://doi.org/10.46722/hikmah.v7i2.471>
- Ulla, M. B., Perales, W. F., & Busbus, S. O. (2023). 'To generate or stop generating response': Exploring EFL teachers' perspectives on ChatGPT in English language teaching in Thailand. *Learning: Research and Practice*, 9(2), 168-182. <https://doi.org/10.1080/23735082.2023.2257252>
- Vázquez-Cano, E., Ramirez-Hurtado, J. M., Saez-Lopez, J. M., & Lopez-Meneses, E. (2023). ChatGPT: The brightest student in the class. *Thinking Skills and Creativity*, 49, 101380. <https://doi.org/10.1016/j.tsc.2023.101380>
- Vercellotti, M. L., & McCormick, D. E. (2021). Constructing analytic rubrics for assessing open-ended tasks in the language classroom. *Tesl-EJ*, 24(4), 1-19.
- Von Garrel, J., & Mayer, J. (2023). Artificial Intelligence in studies—use of ChatGPT and AI-based tools among students in Germany. *Humanities and Social Sciences Communications*, 10(1), 1-9. <https://doi.org/10.1057/s41599-023-02304-7>
- Xiao, Y., & Zhi, Y. (2023). An exploratory study of EFL students' use of ChatGPT for language learning tasks: Experience and perceptions. *Languages*, 8(3), 212. <https://doi.org/10.3390/languages8030212>
- Xu, T., & Wang, H. (2024). The effectiveness of artificial intelligence on English language learning achievement. *System*, 125, 103428. <https://doi.org/10.1016/j.system.2024.103428>