

ENHANCING THAI EFL STUDENTS' PRONUNCIATION OF REGULAR PAST TENSE /-ED/ ENDINGS THROUGH CHATGPT-ASSISTED SPEAKING PRACTICE IN AN ENGLISH FOR COMMUNICATION 1 COURSE: A CASE STUDY

การพัฒนาการออกเสียง /-ed/ ในรูปอดีตกาลของนักศึกษาไทยที่เรียนภาษาอังกฤษเป็นภาษาต่างประเทศโดยใช้
ChatGPT ในรายวิชาภาษาอังกฤษเพื่อการสื่อสาร 1: กรณีศึกษา

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บทคัดย่อ

การออกเสียงคำกริยารูปอดีตกาล /-ed/ เป็นทักษะที่ทำนายสำหรับผู้เรียนชาวไทยในบริบท EFL การศึกษาค้นคว้าครั้งนี้จึงมุ่ง
วิเคราะห์ประสิทธิผลของการฝึกพูดโดยใช้ ChatGPT ผ่านฟังก์ชันการสนทนาด้วยเสียง (Voice Mode) เพื่อส่งเสริมการฟังและพูด
โต้ตอบแบบทันที เป็นตัวช่วยในการพัฒนาการออกเสียงคำกริยารูปอดีตกาลที่ลงท้ายด้วย /-ed/ ของนักศึกษาไทยที่เรียนภาษาเรียน
ในรายวิชาภาษาอังกฤษเพื่อการสื่อสาร 1 งานวิจัยนี้ใช้รูปแบบการวิจัยกรณีศึกษา โดยมีกลุ่มตัวอย่างเป็นนักศึกษาชั้นปีที่ 1 จำนวน
62 คน ข้อมูลเชิงปริมาณถูกรวบรวมจากแบบทดสอบการออกเสียงก่อนเรียนและหลังเรียน ขณะที่ข้อมูลเชิงคุณภาพได้มาจาก
แบบสอบถามความคิดเห็นของนักศึกษาที่มีต่อการใช้ ChatGPT ในการฝึกการออกเสียง การวิเคราะห์ข้อมูลใช้สถิติเชิงพรรณนาเพื่อ
วิเคราะห์ผลการออกเสียงของนักศึกษา และใช้การวิเคราะห์เนื้อหาเพื่อตรวจสอบทัศนคติของนักศึกษาต่อการใช้ ChatGPT ในการ
ฝึกการออกเสียง ผลการวิจัยพบว่าความสามารถในการออกเสียงของนักศึกษาดีขึ้นหลังจากเข้าร่วมกิจกรรมการฝึกพูดด้วย ChatGPT
เป็นระยะเวลา 4 สัปดาห์ โดยค่าเฉลี่ยคะแนนเพิ่มขึ้นจาก 11.84 (S.D. = 2.73) ในการทดสอบก่อนเรียนเป็น 16.92 (S.D. = 1.95)
ในการทดสอบหลังเรียน จากคะแนนเต็ม 20 คะแนน ซึ่งสะท้อนถึงพัฒนาการที่มีประสิทธิภาพในเชิงตัวเลขและสะท้อนถึงการพัฒนา
ความถูกต้องในการออกเสียงอย่างมีนัยสำคัญ นอกจากนี้ ผลจากแบบสอบถามยังแสดงให้เห็นว่านักศึกษามีทัศนคติเชิงบวกต่อการใช้
ChatGPT โดยระบุว่า ChatGPT ช่วยลดความวิตกกังวลในการพูดภาษาต่างประเทศ (Foreign Language Speaking Anxiety)
และสร้างสภาพแวดล้อมที่เอื้อต่อการฝึกฝนซ้ำๆ ได้ดีกว่าการฝึกในชั้นเรียนปกติ ผลการศึกษานี้ชี้ให้เห็นว่าการฝึกพูดด้วยเครื่องมือ
ปัญญาประดิษฐ์สามารถเป็นเครื่องมือเสริมที่มีประสิทธิภาพสำหรับการสอนการออกเสียงในชั้นเรียนภาษาอังกฤษในบริบท EFL และ
สะท้อนให้เห็นถึงศักยภาพของการบูรณาการปัญญาประดิษฐ์ในการเรียนการสอนภาษา

คำสำคัญ: การเรียนรู้โดยใช้ ChatGPT, การออกเสียงภาษาอังกฤษ, คำกริยารูปอดีต /-ed/, ผู้เรียน EFL ชาวไทย, ปัญญาประดิษฐ์
ในการเรียนภาษา

Abstract

The pronunciation of regular past tense /-ed/ endings remain a challenging skill for Thai learners in an EFL context. This study aims to investigate the effectiveness of ChatGPT-assisted speaking practice, specifically utilizing the Voice Mode to facilitate real-time listening and speaking interaction, as a tool for developing the /-ed/ pronunciation of 62 first-year Thai university students enrolled in an English for Communication 1 course. Employing a case study research design, quantitative data were collected through pronunciation pre-tests and post-tests, while qualitative data were gathered from a questionnaire regarding students' perceptions of using ChatGPT for pronunciation practice. Data analysis involved descriptive statistics to evaluate pronunciation performance and content analysis to examine student attitudes. The findings revealed that students' pronunciation ability improved significantly after participating in the 4-week ChatGPT-assisted speaking activities. The mean score increased from 11.84 (S.D. = 2.73) in the pre-test to 16.92 (S.D. = 1.95) in the post-test out of a total of 20 points, reflecting substantial numerical progress and a significant improvement in pronunciation accuracy. Furthermore, questionnaire results indicated that students held positive attitudes toward the tool, noting that ChatGPT helps reduce Foreign Language Speaking Anxiety and creates a supportive environment for repetitive practice more effectively than traditional classrooms. These results suggest that AI-assisted speaking practice can serve as an efficient supplementary tool for pronunciation instruction in EFL settings and highlights the potential of integrating artificial intelligence into language education.

Keywords: ChatGPT-assisted learning, English pronunciation, /-ed/ endings, Thai EFL learners, AI in language learning

Background and significance of the problems

Pronunciation is an essential component of communicative competence in learning English as a foreign language (EFL). Clear pronunciation allows learners to convey meaning effectively and facilitates successful communication in academic and real-life contexts. However, many EFL learners encounter difficulties in producing certain English sounds due to differences between their first language and English phonological systems (Derwing & Munro, 2015). Among Thai learners of English, pronunciation problems are frequently observed, particularly in the production of final consonants and inflectional endings such as the regular past tense marker /-ed/ (Khakheang & Cherngroongroj, 2024). These pronunciation challenges can negatively affect intelligibility and learners' confidence in spoken communication.

The English regular past tense suffix /-ed/ is phonetically realized in three forms: /t/, /d/, and /ɪd/. Correct pronunciation depends on the final sound of the base verb, which often creates confusion for EFL learners (Celce-Murcia et al., 2010). For Thai learners in particular, the difficulty stems from the limited use of consonant clusters and final consonant sounds in the Thai language. As a result, students may omit the /-ed/ ending, pronounce it incorrectly, or apply a single pronunciation rule to all verbs. These errors are commonly observed in classroom speaking activities and can hinder the development of accurate spoken English (Derwing & Munro, 2015).

The difficulty for Thai learners is rooted in the phonological differences between Thai and English. The Thai language lacks final consonant clusters and specific final sounds such as plosives or fricatives, which are essential for producing the /t/, /d/, and /ɪd/ variations of the /-ed/ suffix. This linguistic gap, combined with complex grammatical rules, necessitates intensive, repetitive practice that is often difficult to achieve in time-constrained traditional classrooms. ChatGPT addresses this by offering a private, unlimited platform for students to reinforce these challenging phonological features. With the rapid development of educational technology, artificial intelligence (AI) has emerged as a valuable tool to support language learning. AI-powered tools provide learners with opportunities for interactive practice, immediate feedback, and individualized learning experiences. In recent years, conversational AI systems such as ChatGPT have gained attention for their potential to support language learning through dialogue-based interaction and language practice (Fryer & Carpenter, 2006). By engaging in simulated conversations, students can practice speaking, receive corrective feedback, and increase their exposure to authentic language use.

Several studies have highlighted the benefits of integrating AI technologies into English language learning. For example, Khakheang and Cherngroongroj (2025) explored the use of AI-integrated learning strategies among Thai university students and found that AI tools helped learners improve vocabulary acquisition and encouraged autonomous learning behaviors. Similarly, Khakheang (2025) reported that first-year university students perceived technology-supported English learning activities as engaging and beneficial for improving their language skills and learning motivation. These findings suggest that AI tools such as ChatGPT may provide innovative opportunities to enhance language learning outcomes in higher education contexts.

Despite the growing interest in AI-assisted language learning, limited research has specifically examined the use of AI tools to improve English pronunciation, particularly in the context of Thai EFL learners. Most existing studies on AI integration in language education have primarily focused on vocabulary acquisition, grammar instruction, or general language learning strategies rather than pronunciation development (Godwin-Jones, 2018; Kukulska-Hulme, 2020; Li & Lan, 2022). Although conversational AI and chatbot technologies have shown considerable potential for facilitating interactive language practice, empirical studies investigating their effectiveness in improving specific phonological features remain relatively scarce (Fryer & Carpenter, 2006; Tai & Chen, 2023). In particular, pronunciation instruction involving problematic morphological endings, such as the English regular past tense /-ed/, has received limited attention in AI-assisted learning environments, despite the

well-documented difficulties faced by EFL learners in producing these forms accurately (Celce-Murcia et al., 2010; Derwing & Munro, 2015). Therefore, further research is needed to explore how AI-supported speaking practice may help learners overcome pronunciation challenges and improve their spoken intelligibility.

Therefore, this study aims to investigate the use of ChatGPT-assisted speaking practice to enhance Thai EFL students' pronunciation of regular past tense /-ed/ endings in an English for Communication 1 course. Using a case study approach, the research examines how AI-supported speaking activities may help students improve their pronunciation accuracy and develop greater confidence in spoken English. The findings of this study are expected to contribute to the growing body of research on AI-assisted language learning and provide practical insights for English language instructors seeking to integrate AI tools into pronunciation instruction.

Research Objectives

To investigate the effectiveness of ChatGPT-assisted speaking practice in improving Thai EFL students' pronunciation of regular past tense /-ed/ endings in an English for Communication 1 course.

To examine the changes in students' pronunciation accuracy of /-ed/ endings after participating in ChatGPT-assisted speaking practice activities.

To explore students' perceptions toward the use of ChatGPT as a tool for practicing English pronunciation.

Research Questions

How does ChatGPT-assisted speaking practice affect Thai EFL students' pronunciation of regular past tense /-ed/ endings in an English for Communication 1 course?

To what extent does students' pronunciation accuracy of /-ed/ endings improve after participating in ChatGPT-assisted speaking practice?

What are students' perceptions of using ChatGPT for practicing English pronunciation?

Literature Review

Pronunciation in EFL Learning

Pronunciation is widely recognized as a crucial component of communicative competence in second and foreign language learning. Effective pronunciation enables learners to convey meaning clearly and improves overall intelligibility in spoken communication. Researchers have emphasized that pronunciation instruction should focus not only on achieving native-like accents but also on enhancing comprehensibility and communicative effectiveness (Celce-Murcia et al., 2010; Derwing & Munro, 2015). In many EFL contexts, however, pronunciation instruction receives less emphasis compared to grammar and vocabulary teaching, which may limit learners' ability to communicate effectively in real-life situations.

One pronunciation challenge in English involves the production of the regular past tense suffix /-ed/. This suffix has three phonetic realizations /t/, /d/, and /ɪd/ depending on the final sound of the base verb. For EFL learners, especially those whose first language has different phonological structures, correctly producing these forms can be difficult (Celce-Murcia et al., 2010). Errors such as omission of the /-ed/ ending or overgeneralization of one pronunciation pattern are frequently observed among learners. These pronunciation difficulties may affect speech intelligibility and hinder effective communication in English.

For Thai learners of English, pronunciation problems are often influenced by the phonological differences between Thai and English. Thai phonology allows a limited range of final consonant sounds and rarely uses consonant clusters, which makes it challenging for learners to produce certain English morphological endings accurately. Previous studies have reported that Thai EFL learners frequently experience difficulties with various

aspects of English usage, including lexical selection and word usage (Khakheang & Cherngroongroj, 2024). These linguistic challenges highlight the need for instructional strategies that provide learners with more opportunities to practice and receive feedback on their spoken English.

Artificial Intelligence in Language Learning

The rapid development of educational technology has introduced new opportunities for language learning, particularly through the integration of artificial intelligence (AI). AI-based technologies can provide interactive learning environments, personalized feedback, and flexible learning opportunities beyond traditional classroom settings. In language education, AI systems have been increasingly used to support speaking practice, pronunciation training, and learner autonomy (Godwin-Jones, 2018; Kukulska-Hulme, 2020).

Conversational AI systems and chatbot technologies have gained attention as innovative tools for language practice. These systems allow learners to engage in simulated conversations and receive immediate feedback on their language use. Early research on chatbot-assisted learning indicated that bots could serve as effective tools for facilitating language practice and increasing learners' engagement (Fryer & Carpenter, 2006). More recent studies have also suggested that AI-enhanced learning environments can improve speaking performance and pronunciation accuracy by providing repeated practice opportunities and individualized feedback (Li & Lan, 2022).

In addition, empirical studies have demonstrated the effectiveness of AI-powered tools in supporting pronunciation development. For instance, research on AI-assisted pronunciation instruction has shown that integrating AI-based feedback systems can significantly improve learners' phoneme accuracy and motivation to learn English (Abdelhalim & Alsehibany, 2025). Similarly, AI-supported blended learning environments have been found to enhance students' speaking performance and pronunciation accuracy compared to traditional instruction (Chen et al., 2025). These findings suggest that AI technologies can complement conventional teaching methods and create more engaging learning experiences for language learners.

AI-Assisted Pronunciation Practice

Recent studies have specifically examined the role of AI tools in pronunciation training. AI-powered applications such as speech recognition systems, chatbots, and text-to-speech technologies can provide learners with opportunities to practice pronunciation independently and receive immediate feedback. For example, a study investigating the use of chatbot AI for pronunciation instruction found that learners who used AI-based tools significantly reduced pronunciation errors in final consonant sounds after participating in interactive learning activities (Kham & Thao, 2025).

Similarly, research on AI text-to-speech applications has shown that learners generally perceive these technologies as useful tools for improving pronunciation and increasing their confidence in speaking English (Amin, 2024). Furthermore, studies on generative AI and language learning have reported that AI-assisted speaking practice can enhance learners' pronunciation ability, reduce speaking anxiety, and increase motivation for self-directed learning (Zhang et al., 2025).

Despite these promising findings, research on AI-assisted pronunciation instruction remains relatively limited compared to studies focusing on vocabulary learning, grammar instruction, or general language practice. Many studies on AI in language education emphasize the development of speaking skills or learner engagement rather than examining specific phonological features in detail. Therefore, more research is needed to explore how AI tools can be used to address pronunciation difficulties experienced by EFL learners.

Previous Studies

Several studies have explored the integration of artificial intelligence into English language learning. Khakheang and Cherngroongroj (2025) investigated English vocabulary learning strategies through AI integration

among Thai university students and found that AI tools encouraged autonomous learning and improved vocabulary acquisition. Their findings suggest that AI technologies can support language learning by providing flexible and interactive learning environments. Similarly, Khlakheang (2025) examined first-year university students' perceptions and experiences in an English course supported by technology-enhanced learning activities. The results revealed that students had positive attitudes toward technology-assisted language learning and believed that digital tools helped them develop their English communication skills and learning motivation.

Other studies have also examined the effectiveness of AI technologies in improving language skills. For example, research on AI-powered pronunciation training has demonstrated that learners who receive automated pronunciation feedback show significant improvements in pronunciation accuracy and speaking performance. AI-assisted speaking activities have also been found to reduce learners' anxiety and increase their confidence in using English in communicative contexts (Abdelhalim & Alsehibany, 2025; Zhang et al., 2025). In addition, studies on chatbot-based language learning have reported positive outcomes for speaking development. Learners who engaged in AI-mediated conversations demonstrated improvements in pronunciation, fluency, and overall speaking performance compared to those receiving traditional instruction alone (Chen et al., 2025). These findings highlight the potential of AI technologies to provide meaningful opportunities for language practice and support the development of oral communication skills.

Although these studies demonstrate the potential benefits of AI-assisted language learning, relatively few studies have focused specifically on improving the pronunciation of grammatical endings such as the English regular past tense /-ed/. Since this feature poses particular challenges for many EFL learners, further research is needed to investigate how AI-assisted speaking practice may help learners develop more accurate pronunciation of these forms. Therefore, the present study aims to examine the effectiveness of ChatGPT-assisted speaking practice in improving Thai EFL students' pronunciation of regular past tense /-ed/ endings in an English for Communication 1 course.

Research Methodology

Research Design

This study employed a case study research design to investigate the effectiveness of ChatGPT-assisted speaking practice in improving Thai EFL students' pronunciation of regular past tense /-ed/ endings in an English for Communication 1 course. A case study approach was selected because it allows the researcher to examine a specific group of participants in a real classroom context and explore how instructional interventions influence students' learning outcomes (Creswell & Creswell, 2018). The study adopted a mixed-methods approach, combining quantitative and qualitative data. Quantitative data were obtained from students' pronunciation scores collected through pre-test and post-test assessments, while qualitative data were gathered from students' perceptions regarding the use of ChatGPT for pronunciation practice.

Participants

The participants of this study consisted of 62 first-year Thai university students enrolled in the English for Communication 1 course at a private university in Thailand during the second semester of the 2025 academic year. The participants were selected using purposive sampling, as they were students who were currently taking the course and experiencing difficulties with English pronunciation, particularly the pronunciation of regular past tense /-ed/ endings. Most participants had studied English as a foreign language for several years in the Thai education system but had limited opportunities to practice speaking English outside the classroom. Therefore, they were considered appropriate participants for examining the effectiveness of AI-assisted speaking practice.

Research Instruments

Three research instruments were used in this study:

1. Pronunciation Test

A pronunciation test was used as both a pre-test and post-test to measure students' ability to pronounce regular past tense /-ed/ endings. The test consisted of 20 regular verbs representing the three pronunciation patterns of /-ed/ endings: /t/, /d/, and /Id/. Students were required to read the verbs aloud, and their pronunciation was recorded for evaluation. Students' pronunciation performance was assessed using pronunciation scoring rubric, focusing on pronunciation accuracy and intelligibility.

2. ChatGPT-Assisted Speaking Practice Activities

Students participated in ChatGPT-assisted speaking practice sessions designed to provide opportunities for practicing sentences and short conversations using verbs in the past tense. During these activities, students interacted with ChatGPT to generate sentences, practice reading aloud, and receive corrective feedback on their pronunciation. These activities were implemented over a period of 4 weeks during the course.

3. Student Perception Questionnaire

A questionnaire was administered after the intervention to examine students' perceptions of using ChatGPT as a pronunciation practice tool. The questionnaire consisted of Likert-scale items and open-ended questions addressing students' attitudes, perceived benefits, and challenges related to AI-assisted pronunciation practice.

Data Collection Procedure

The data collection process was conducted in several stages:

Pre-test: At the beginning of the study, students completed a pronunciation pre-test to assess their initial ability to pronounce regular past tense /-ed/ endings.

Instruction and Practice: Students participated in ChatGPT-assisted speaking practice activities during the English for Communication 1 course for 4 weeks. These activities focused on practicing verbs in the past tense and improving the pronunciation of /-ed/ endings.

Post-test: After completing the practice sessions, students took a pronunciation post-test using the same format as the pre-test to evaluate improvements in their pronunciation.

Questionnaire: Finally, students completed a questionnaire to provide feedback on their experiences using ChatGPT for pronunciation practice.

Data Analysis

Quantitative data from the pronunciation tests were analyzed using descriptive statistics, including mean scores and standard deviations, to compare students' pronunciation performance before and after the ChatGPT-assisted speaking practice. The improvement in pronunciation accuracy was examined by comparing the results of the pre-test and post-test. Qualitative data obtained from open-ended questionnaire responses were analyzed using content analysis to identify common themes related to students' perceptions of AI-assisted pronunciation practice. The results from both quantitative and qualitative analyses were then interpreted to provide a comprehensive understanding of the effectiveness of ChatGPT in improving students' pronunciation of /-ed/ endings.

Results

The results of this study are presented according to the three research questions. Quantitative data obtained from the pronunciation pre-test and post-test were analyzed using descriptive statistics, including mean scores and standard deviations. In addition, qualitative data from the student perception questionnaire were analyzed using content analysis to identify students' attitudes toward the use of ChatGPT for pronunciation practice.

Part 1: How does ChatGPT-assisted speaking practice affect Thai EFL students' pronunciation of regular

past tense /-ed/ endings in an English for Communication 1 course?

To answer the first research question, students' pronunciation performance before and after the implementation of ChatGPT-assisted speaking practice was examined by comparing the results of the pre-test and post-test. The descriptive statistics are presented in Table 1.

Table 1: Comparison of Students' Pronunciation Scores in the Pre-test and Post-test

Test	N	Mean	S.D.
Pre-test	62	11.84	2.73
Post-test	62	16.92	1.95

As shown in Table 1, the mean score of the pre-test was 11.84 (S.D. = 2.73), while the mean score of the post-test increased to 16.92 (S.D. = 1.95). Considering that the total possible score of the pronunciation test was 20 points, the results indicate a substantial improvement in students' pronunciation accuracy after the four-week intervention. The higher mean score in the post-test suggests that students were able to pronounce regular past tense /-ed/ endings more accurately after participating in ChatGPT-assisted speaking practice activities. In addition, the standard deviation in the post-test was lower than that of the pre-test, indicating that students' pronunciation performance became more consistent after the intervention. This finding suggests that the integration of ChatGPT into classroom activities provided students with repeated opportunities to practice past tense verbs and become more familiar with the pronunciation rules associated with /-ed/ endings. Overall, the results indicate that ChatGPT-assisted speaking practice had a positive impact on students' pronunciation performance in the English for Communication 1 course.

Part 2: To what extent does students' pronunciation accuracy of /-ed/ endings improve after participating in ChatGPT-assisted speaking practice?

To further examine the extent of improvement, students' pronunciation performance was analyzed according to the three pronunciation patterns of the /-ed/ ending: /t/, /d/, and /ɪd/. The results are presented in Table 2.

Table 2: Students' Pronunciation Accuracy by /-ed/ Ending Type

Pronunciation Type	Maximum Score	Pre-test Mean	Post-test Mean
/t/	7	3.76	5.42
/d/	7	3.58	5.11
/ɪd/	6	4.50	6.39
Total	20	11.84	16.92

Table 2 shows that students' pronunciation accuracy improved across all three pronunciation patterns of the /-ed/ ending. Among the three patterns, the /ɪd/ pronunciation had the highest mean score in both the pre-test and the post-test. This result suggests that students generally found the /ɪd/ ending easier to pronounce compared to the /t/ and /d/ endings. In contrast, the /t/ and /d/ endings showed lower mean scores in the pre-test, indicating that these forms posed greater difficulty for students at the beginning of the study. This difficulty may be related to the phonological characteristics of the Thai language, which does not commonly include certain final consonant sounds or consonant clusters found in English. However, after the four-week ChatGPT-assisted speaking practice, the mean scores for both the /t/ and /d/ endings increased considerably, indicating that students were able to improve their pronunciation of these endings through repeated practice. The improvement across all three pronunciation patterns suggests that the ChatGPT-assisted activities helped students develop a better understanding of the pronunciation rules associated with regular past tense verbs. By practicing sentences and short dialogues generated through ChatGPT, students were exposed to multiple

examples of past tense verbs and were able to reinforce their knowledge of the different pronunciation patterns.

Part 3: What are students' perceptions of using ChatGPT for practicing English pronunciation?

Students' perceptions toward the use of ChatGPT for pronunciation practice were examined through a questionnaire consisting of five Likert-scale items. The descriptive statistics for the questionnaire responses are presented in Table 3.

Table 3: Students' Perceptions of Using ChatGPT for Pronunciation Practice

Item	Statement	Mean	S.D.
1	ChatGPT helps me practice English pronunciation more frequently.	4.32	0.61
2	ChatGPT makes pronunciation practice more interesting.	4.28	0.65
3	Using ChatGPT helps me understand the pronunciation of /-ed/ endings.	4.15	0.68
4	ChatGPT increases my confidence in speaking English.	4.21	0.63
5	I would like to use ChatGPT for future English learning.	4.40	0.59
Overall Mean		4.27	0.63

As shown in Table 3, students generally expressed positive perceptions toward the use of ChatGPT for pronunciation practice, with an overall mean score of 4.27. The highest-rated item was students' willingness to use ChatGPT for future English learning ($M = 4.40$), suggesting that students viewed AI-assisted learning as a beneficial and engaging approach for improving their English skills. Furthermore, the results indicate that students believed ChatGPT provided valuable opportunities for practicing pronunciation more frequently ($M = 4.32$). This finding highlights the role of AI tools in extending learning opportunities beyond traditional classroom settings. Many students also agreed that ChatGPT made pronunciation practice more interesting ($M = 4.28$), which may contribute to increased motivation and engagement in language learning. In addition to the quantitative results, the analysis of open-ended questionnaire responses revealed several recurring themes. First, many students reported that practicing with ChatGPT allowed them to repeat sentences multiple times without feeling embarrassed about making mistakes. Second, students noted that interacting with ChatGPT helped them become more aware of the pronunciation rules of regular past tense verbs. Finally, several students expressed interest in using AI-based tools for other aspects of English learning, such as speaking practice and vocabulary development. Overall, the findings suggest that students perceived ChatGPT as a useful and supportive tool for improving their pronunciation and enhancing their English learning experience.

Discussion

The findings of this study provide evidence that ChatGPT-assisted speaking practice can contribute positively to the development of Thai EFL students' pronunciation of regular past tense /-ed/ endings. The results demonstrated a clear improvement in students' pronunciation performance after participating in four weeks of AI-assisted speaking activities. This improvement was reflected in the higher mean score in the post-test compared with the pre-test, suggesting that students were able to pronounce past tense verb endings more accurately after engaging in repeated speaking practice with ChatGPT. One possible explanation for this improvement is that AI-based tools provide learners with increased opportunities for individualized and autonomous practice. In traditional classroom settings, pronunciation practice is often limited by time constraints and the number of students in the class. However, AI tools such as ChatGPT allow students to practice speaking more frequently and at their own pace. This finding is consistent with previous research indicating that AI-assisted language learning environments can enhance language practice opportunities and promote learner autonomy (Kohnke et al., 2023; Kukulska-Hulme et al., 2022). By interacting with ChatGPT, students were able to generate sentences, repeat pronunciation tasks, and receive immediate feedback from the conversation prompts, which may have facilitated

more effective pronunciation learning. The results of this study also revealed that students' pronunciation accuracy improved across all three types of /-ed/ endings: /t/, /d/, and /Id/. Among these, the /Id/ ending showed the highest scores in both the pre-test and post-test. This finding aligns with previous phonological studies suggesting that the /Id/ ending is generally easier for EFL learners because it forms an additional syllable, making it more perceptually salient and easier to articulate (Celce-Murcia et al., 2010). In contrast, the /t/ and /d/ endings were more challenging for students at the beginning of the study, which may be related to the phonological characteristics of the Thai language. Thai phonology does not typically include certain final consonant sounds or consonant clusters found in English, which often leads to difficulties in producing word-final consonants among Thai learners (Kirkpatrick, 2007). Nevertheless, the improvement observed in these two categories suggests that repeated exposure and practice through AI-assisted speaking activities can help learners gradually overcome such phonological difficulties.

In addition to the improvement in pronunciation performance, the findings also indicated that students held positive perceptions toward the use of ChatGPT for pronunciation practice. The questionnaire results showed high levels of agreement across all items, particularly regarding students' willingness to use ChatGPT for future English learning. This positive attitude may be attributed to the interactive and flexible nature of AI-based learning environments. Unlike traditional classroom practice, interacting with ChatGPT allows learners to practice speaking without fear of negative evaluation, which may reduce language anxiety and encourage more active participation in speaking activities. Similar findings have been reported in recent studies on AI-assisted language learning, which suggest that AI chatbots can increase learners' motivation and confidence in language use (Huang et al., 2023; Li et al., 2023). The qualitative data further highlights the emotional benefits of AI integration. Analysis of student comments revealed key themes of increased confidence, with several students stating: *"I feel braver to speak because the AI doesn't get tired or judge my broken English"* and *"I can repeat the difficult sounds many times until I get it right"*. These responses indicate that ChatGPT effectively mitigates Foreign Language Speaking Anxiety, a major barrier in Thai EFL contexts, allowing for a more effective long-term language acquisition process. Another important finding emerging from the qualitative responses is that students appreciated the opportunity to repeat pronunciation practice multiple times without feeling embarrassed. This aspect of AI-assisted learning may be particularly beneficial for pronunciation development, as effective pronunciation learning requires repeated practice and exposure to target sounds (Derwing & Munro, 2015). The ability to engage in unlimited practice with AI tools can therefore provide learners with a supportive learning environment that complements traditional classroom instruction. Overall, the findings of this study support the growing body of research suggesting that artificial intelligence can play a valuable role in language education. By integrating AI tools such as ChatGPT into classroom activities, instructors can provide students with additional opportunities for meaningful language practice, particularly in areas that require frequent repetition such as pronunciation. The results of this study therefore highlight the potential of AI-assisted speaking practice as an innovative approach for improving English pronunciation among EFL learners.

Conclusion

This study investigated the use of ChatGPT-assisted speaking practice to enhance Thai EFL students' pronunciation of regular past tense /-ed/ endings in an English for Communication 1 course. The results revealed that students' pronunciation performance improved significantly after participating in a four-week intervention involving AI-assisted speaking activities. The comparison between the pre-test and post-test scores indicated that students were able to pronounce past tense verb endings more accurately after practicing with ChatGPT. Further analysis of the three pronunciation patterns (/t/, /d/, and /Id/) showed that students demonstrated improvement across all categories, although the /Id/ ending remained the easiest form for learners. The findings suggest that repeated exposure to pronunciation practice through AI-generated speaking activities can help students better

understand and apply the pronunciation rules associated with regular past tense verbs. In addition, the results from the student perception questionnaire indicated that learners held positive attitudes toward the use of ChatGPT in pronunciation practice. Students reported that ChatGPT made pronunciation practice more interesting, increased their opportunities to practice speaking, and enhanced their confidence in using English. These findings highlight the potential of AI-based tools to support student engagement and motivation in language learning. Overall, this study suggests that ChatGPT can serve as an effective supplementary tool for pronunciation instruction in EFL classrooms. By providing learners with flexible and interactive speaking practice opportunities, AI-assisted learning environments can complement traditional teaching methods and support students' pronunciation development. Despite these positive findings, several limitations should be acknowledged. First, the study employed a case study design within a single course, which may limit the generalizability of the results. Second, the intervention period lasted only four weeks; therefore, longer-term studies are needed to examine whether the observed improvements can be sustained over time. Future research may also explore the use of AI-assisted speaking practice for other aspects of pronunciation, such as word stress, intonation, and connected speech. In conclusion, the integration of ChatGPT into pronunciation practice activities represents a promising approach for enhancing EFL learners' speaking skills. As artificial intelligence continues to develop, its role in language education is likely to expand, offering new opportunities for innovative and personalized language learning experiences.

Recommendation for Further Studies

Although the findings of this study demonstrate the potential of ChatGPT-assisted speaking practice in improving Thai EFL students' pronunciation of regular past tense /-ed/ endings, several directions for future research should be considered. First, future studies could employ a larger sample size and involve participants from multiple institutions to enhance the generalizability of the findings. Conducting research across different universities or educational contexts may provide a broader understanding of how AI-assisted pronunciation practice can benefit diverse groups of EFL learners. Second, longitudinal studies are recommended to examine the long-term effects of AI-assisted pronunciation practice. Since this study was conducted over a four-week period, it remains unclear whether the improvement in students' pronunciation accuracy can be sustained over time. Future research could investigate whether continuous interaction with AI tools leads to long-term development in pronunciation skills. Third, future studies may explore the use of AI-assisted speaking practice for other aspects of pronunciation learning, such as word stress, sentence stress, intonation, and connected speech. These elements play an important role in improving learners' overall intelligibility in spoken communication. Investigating these areas could provide a more comprehensive understanding of how artificial intelligence can support pronunciation instruction. Finally, future research could compare different AI tools, such as speech-recognition applications, AI chatbots, and pronunciation training software, to determine which technologies are most effective for improving learners' pronunciation. Such comparative studies may provide valuable insights for educators seeking to integrate AI technologies into language classrooms.

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