ChatGPT's Impact on Listening Comprehension: Perspectives from Vietnamese EFL University Learners

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ABSTRACT

Research has shown that ChatGPT is a valuable educational tool for developing second language (L2) proficiency. While extensive literature highlights its positive influence on various linguistic skills, its impact on L2 listening skills remains underexplored. This study reports the findings of an investigation into Vietnamese EFL learners' perceptions of ChatGPT's role in improving L2 listening abilities. The study adopted an explanatory mixed method design by recruiting 245 undergraduates from three main disciplines at a private university: Business and Management, Technology and Data, and Social Sciences and Humanities. Data were collected through a questionnaire for the first phase, followed by semi-structured interviews with 11 participants. The findings revealed that only half of respondents believe that ChatGPT is beneficial for enhancing L2 listening skills. However, when asked about its effect on specific listening-related domains, students showed an acknowledgment of certain advantages. Specifically, ChatGPT is most effective in promoting vocabulary development, followed by grammar knowledge, and working memory. The least significant benefits are observed in improving pronunciation and motivation for listening. Moreover, gender has no significant role in shaping students' views on ChatGPT's benefits while its perceived usefulness varies notably across academic disciplines. Based on the findings, the study offers implications and recommendations for teachers and learners to maximize the potential of ChatGPT in L2 listening development.

Keywords: ChatGPT, L2 listening skills, Perception, Vietnamese EFL learners

Introduction

Prominently, there has been a shift in language teaching methodologies towards the incorporation of technology, particularly Artificial Intelligence (henceforth, AI), to improve the quality of language learning outcomes due to the recognition of its potential capacity to enrich the language learning process (Ngo, 2023). AI has shown its revolutionary impacts on the process of teaching and classroom management (Wang, 2021), optimizing the learning environments, fostering creativity, motivation, and enthusiasm of learners (Yang & Bai, 2020).

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Among such AI systems, ChatGPT, a newly developed Generative AI chatbot by OpenAI, emerges as an outstanding tool for its capacity to elevate the language learning process in L2 acquisition (Nguyen et al., 2024). Various researchers have investigated the efficacy of ChatGPT in L2 language learning, indicating its positive influence on improving English language skills, as well as motivating EFL learners in the learning process (Duong et al., 2024; Hayashi & Sato, 2024; Irianto et al. 2022; Liao et al., 2023; Song & Song, 2023; Tran & Tran, 2023; Vo & Nguyen, 2024; Xing, 2023). While the literature on EFL has extensively explored the promises of ChatGPT in developing language skills, the skill of listening has received little attention from scholars to an extent where it could be considered lacking. On a global scale, Montenegro-Rueda et al. (2023) highlight a lack of research on ChatGPT's efficacy in the field of listening. At the local level, research has demonstrated that ChatGPT can facilitate language learning (e.g., Pham & Le, 2024, Hua & Le, 2024); enhance writing (e.g., Nguyen, 2023; Nguyen & Nguyen, 2024; Phan, 2023), and expand knowledge of vocabulary and grammar (e.g., Nguyen et al., 2024; Pham et al., 2024). However, scarce attention has been given to the impact of ChatGPT on listening development. Despite this gap, ChatGPT possesses several features that could support L2 listening acquisition. Specifically, its AI-generated dialogues expose learners to diverse speech patterns, while interactive transcripts enhance the recognition and decoding of words. Additionally, pronunciation feedback aids in phonemic awareness, and comprehension support—such as contextual clarifications and summarization—reinforces listening strategies. To explore these possibilities, the current study addresses the following research questions:

1. What potential benefits do Vietnamese non-English-major undergraduates perceive in using ChatGPT to enhance English listening skills?

2. How are students' gender and academic disciplines linked to their perceptions of ChatGPT's use for listening?

Literature review

Understanding L2 listening skills

Lynch and Mendelsohn (2010) propose that listening is an active process where listeners make sense of the messages based on prior knowledge and the contexts in which listeners engage, rather than literal words spoken. Rost (2011) argues that listening is a cognitive, interactive process that drives the acquisition of L2 language. This complex process relies on sound discrimination, prior knowledge, grammatical structures, stress and intonation, and linguistic and non-linguistic clues to comprehend L2 spoken language. Recently, Aryadoust (2022) suggests that L2 listening should be understood from a multidimensional perspective including behavioral, cognitive, emotional, and neurocognitive aspects. The behavioral component explores observable actions, while the cognitive domain addresses mental processes. The emotional dimension examines affective elements that impact performance, and the neurocognitive factor accounts for the brain's role in processing and adapting to auditory input.

Research has shown that several listening problems may occur during L2 listening comprehension. Field (2009) attributes perception problems to listeners' challenges in recognizing words and sounds within a continuous stream of spoken speech. Goh (2000) identifies additional cognitive listening barriers such as limited memory and problems with speech processing. Meanwhile, Carney (2021) unveils that listening comprehension issues likely stem from L1 phonological influence, English-connected speech, and misinterpretation

of top-down contextual cues. Extending this to multimodal input, Shaojie et al. (2022) pinpoint that the factors affecting the difficulty of audio-visual multimodal input include the use of subtitles, variations in video input, and the interplay between sound and visuals. Recent findings from Kao and Kua's study (2023) also uncover that question types can pose challenges for listeners, particularly overview questions. The most reported listening problem is a tendency to quickly lose retention of the auditory information. Given the complex nature of L2 listening and the variety of barriers identified during the listening comprehension process, there is a pressing need for targeted support to help L2 learners overcome these problems and develop their listening. In order to do that, it is vital to understand the roles of each variable contributing to this achievement.

Factors contributing to effective L2 listening

Due to the comprehension process's complex nature, learners must master various cognitive and linguistic aspects (Zhang & Shen, 2023). Among these aspects, background knowledge plays an important role in predicting the performance of L2 listening. Background knowledge has been categorized into linguistic knowledge, cultural knowledge, strategic knowledge, topic familiarity, and contextual knowledge (Aryadoust, 2024; Buck, 2001; Cai & Min, 2024; Lu & Dang, 2023). These types of knowledge were referred to as schemata by Brown and Yule (1983) that might profoundly impact the capturing of L2 auditory input. By activating the schemata, L2 listeners could anticipate the incoming L2 information even with limited linguistic proficiency.

Linguistic knowledge is pivotal in shaping L2 listening skills, particularly through the mastery of vocabulary, grammatical structures, and pronunciation. Research consistently shows that a strong foundation in these areas enhances learners' ability to comprehend spoken language effectively (Vandergrift & Goh, 2012). Lexical knowledge, in particular, is important for L2 listening success as a strong predictor (Milton & Treffers-Daller, 2013). As Rost (2011) explains, decoding L2 input requires interpreting the meaning of unknown words, so learners with a broader vocabulary are better at comprehending L2 spoken signals. The significant relationship between vocabulary knowledge written and aural and listening ability has been well-supported by empirical evidence (e.g., Lange & Matthews, 2020; Masrai, 2022; Matthews & Cheng, 2015; Vandergrift & Baker, 2015).

Grammatical knowledge also contributes significantly to understanding the structure and meaning of spoken discourse. It serves as the knowledge base for language processing, particularly in the cognitive stages of L2 listening (Cai & Min, 2024). Having a generalized knowledge of grammar allows listeners to internalize language structure by recognizing how its features are organized, rule-governed, and interconnected (Joyce, 2019).

In addition to vocabulary and grammar, pronunciation, covering both segmental and suprasegmental features, is essential for improving speech perception and listening comprehension. Previous studies (e.g., Dao et al., 2020;Vu et al., 2022; Zhou & Wu, 2023) demonstrate that a good command of these phonological features enhances listeners in their comprehension. Specifically, phonetic and prosodic awareness instruction promotes better listening skills (Luu et al., 2021; Kissling, 2018). One aspect of pronunciation that is most related to the success of listening comprehension is speech rate (Medina et al., 2020). L2 listeners tend to see rapid speech delivery as a barrier to understanding spoken messages (Derwing & Munro, 2001). Although this may be a matter of perception (Zhao, 1997), consistent practice and regular exposure to authentic resources can help learners adapt and mitigate this issue.

Another critical factor in achieving effective L2 listening is strategic knowledge. When learners are explicitly or implicitly instructed to employ both cognitive and metacognitive strategies, their listening performance improves (Ahmadi Safa & Motaghi, 2024; Milliner & Dimoski, 2024). Prior studies have supported the benefits of owning a broad repertoire of listening strategies in developing comprehension skills (e.g., Fung & Lo, 2023; Siegel, 2015). One key cognitive strategy is the ability to store, process, and retrieve information in real-time, a function of working memory (Baddeley, 2000; Wallace, 2022). This memory can only handle a limited amount of information at a time because of its limited capacity. In the context of L2 listening, this limitation is exacerbated by the need to retain auditory input for processing and comprehension (Andringa et al., 2012). L2 listeners have to simultaneously decode phonological input, recognize words, and parse syntactic structures, while integrating this information with prior knowledge to construct meaning (Sweller, 2011). Note-taking is one of essential cognitive strategies for effective listening (Gur et al., 2013). Note-taking enhances learners' comprehension and influences the recalling of knowledge (Clark et al., 2014). Listeners can free up mental loads taxed for holding onto unnecessary information and maximizing working memory capacity by offloading information into notes (Vandergrift, 2007). As a result, this facilitates effective processing of key information.

Motivation is a central element in L2 language achievement, including listening. Empirical evidence has shown that motivational factors, both internal and external, affect positively learner effort in listening (Carolan et al., 2022; Ryan & Deci, 2020). Moreover, high-proficiency learners exhibit significantly better listening motivation compared to those with lower proficiency (Lau, 2016).

Taken together, L2 listening comprehension requires the integration of various essential factors. This review is not exhaustive but highlights the critical roles of linguistic knowledge, strategic knowledge, and motivation. These factors are argued to be influenced by the use of ChatGPT which serves as a versatile tool for creating interactive, adaptable, and motivating learning experiences for L2 listeners.

Overview of ChatGPT in language learning

ChatGPT, developed by OpenAI, is built on the Generative Pre-trained Transformer (GPT) architecture, a deep learning model for natural language processing. GPT-1 was developed in 2018 but not until 2020, when GPT-4 was introduced widely with multimodal capabilities, processing text and images (Dong et al., 2023; Zhang & Yang, 2022). It becomes a large language model that possesses the capacity to process authentic speech and generate human-like language. Specifically, it can generate texts based on prompts and communicatively interact with humans, allowing users to use natural language for interactions rather than coding or other complex technical methods (Kozacheck, 2023). Since its emergence, as noted by Wu et al. (2023), this AI-generated tool has garnered a lot of attention from the masses due to its large-scale integration of multiple cutting-edge technologies across various iterations, especially language learning.

Hong (2023) points out that as a personal tutor, ChatGPT can deliver immediate feedback and provide suggestions for improving the linguistic performance of language learners. As a virtual tutor, it can suggest topics, ideas, and contexts for learners to practice more on their productive language skills. Kohnke et al. (2023) indicate that ChatGPT can serve as a dictionary that provides meanings and the proper context in which unknown words are used. Moreover, ChatGPT can adjust the complexity of its responses on demand to align with the users' language proficiency. In this way, it helps learners understand complex language structures by

simplifying content and providing supplementary explanations. This adaptability in content complexity sets ChatGPT apart from traditional conversational agents (Zadorozhnyy & Lai, 2023). Additionally, ChatGPT is believed to offer phonetic transcription and pronunciation rules explanation, despite its text-based responses, complementing pronunciation teaching efforts; and insights into cultures of the target language, enhancing learners' communicative competence by offering information on idioms, customs, and traditions. Furthermore, ChatGPT can foster motivation in EFL classrooms by offering personalized practice, balancing challenging tasks, and providing comprehensible input (Irianto et al., 2023, Karatas et al., 2024).

ChatGPT for listening development

Regarding studies on the efficacy of ChatGPT in enhancing EFL listening skills, the literature has failed to capture its capability and effectiveness due to the poor number of empirical studies. Xing (2023) underscores the significance of interactive discourse and authentic contextual settings in nurturing the development of listening skills. Despite the immediate nature of ChatGPT's text-based responses, the absence of verbal interaction may impede the acquisition of listening proficiency among EFL learners. As such, Xing (2023) advocates for the integration of ChatGPT with speech recognition to enhance the cultivation of listening skills. In the same regard, Liao et al. (2023) investigate the potential utility of ChatGPT in EFL skills development. Liao et al. (2023) argue that four ChatGPT core competencies, such as speech synthesis, speech recognition, intelligent recommendation, and adaptive learning, offer assistance in the listening acquisition process. As highlighted by Liao et al. (2023), the integration of speech synthesis and speech recognition functionalities enabled AI-driven oral practice, thereby facilitating the enhancement of listening abilities. Moreover, the AI tool provided EFL learners with tailored learning materials conducive to the listening process. Through adaptive learning mechanisms, ChatGPT engages with L2 listeners in real-time interactions, furnishing personalized feedback, guidance, and solutions aligned with individuals' language proficiencies. However, Liao et al. (2023) note the need for third-party involvement, such as a simple webpage plug-in, to activate the speech recognition and synthesis features.

The abovementioned studies underscore the potential of ChatGPT and associated technologies in developing listening skills. However, there is a notable lack of empirical studies and practical evidence to substantiate these claims. Therefore, the current study aims to address this pressing need by attempting to investigate the benefits of ChatGPT in enhancing L2 listening development. In this regard, this study argues that some distinct features of ChatGPT such as AI-generated dialogues, interactive transcripts, pronunciation feedback, and comprehension support can contribute to facilitating L2 listening development. Specifically, AI-generated dialogues can expose listeners to diverse speech patterns and discourse structures, which may stimulate authentic listening experiences. This, as stated by Xing (2023), is crucial for improving listening fluency. Besides, listeners may enhance word recognition and decoding skills thanks to synchronized text support via interactive transcripts, which is beneficial for listening (Shaojie et al., 2022). Meanwhile, pronunciation feedback helps listeners improve phonetic awareness and speech perception. In this way, listeners can distinguish similar sounds and understand spoken language more effectively (Zhou & Wu, 2023). Additionally, comprehension support including contextual clarifications, paraphrasing, and summarization, aids learners in processing and retaining spoken input, reinforcing metacognitive listening strategies (Fung & Lo, 2023). By analyzing the interplay of these features of ChatGPT in comprehension, vocabulary acquisition, and phonological awareness, the study argues that these combined improvements lead to the enhancement of overall L2 listening proficiency.

ChatGPT and learners' characteristics

Learner characteristics may influence how they use ChatGPT including gender and academic majors. Studies have shown that gender has a moderating role in facilitating the use of ChatGPT (Arthur et al., 2024; Baek et al., 2023; Bouzar et al., 2024; Elshaer et al., 2024). For instance, Bouzar et al. (2024) discover that female students tend to have a frequent use of ChatGPT and express more caution about over-reliance on this tool. In contrast, male students are likely to spend more time per session and perceive ChatGPT as more beneficial and user-friendly. Similarly, in Elshaer et al.'s study (2024), gender is found to moderate the relationship between performance expectancy and ChatGPT usage. Performance expectancy and social influence have a stronger impact on male students than on females.

Academic discipline also plays a vital role in ChatGPT usage. Elshaer et al. (2024) demonstrate that students' majors significantly moderate the relationship between social influence and ChatGPT usage. Notably, social influence has a stronger effect on ChatGPT usage in social sciences compared to applied sciences. In Vietnam, Vo and Nguyen (2024) examine the use of ChatGPT among 369 students who had prior experience with it for language learning. The findings reveal that gender did not influence students' views, but class levels significantly affected their perspectives on the effectiveness of ChatGPT.

Given the inconsistencies in previous research regarding the role of gender and majors in ChatGPT usage, this study aims to address these factors further within the context of Vietnam to contribute to deeper understanding and add more validation of existing literature.

Methods

Design of the Study

This study adopted a mixed-method design, particularly the explanatory sequential design. As stated by Creswell and Creswell (2018), this design has two phases. The first phase deals with the collection of quantitative data, followed by the second phase in which the qualitative data is gathered to provide further explanations for the quantitative findings. In essence, the nature of this design is aligned with the purpose of the current study. Initially, the researchers aimed to get an overview of learners' perceptions of the roles of ChatGPT in developing English listening via a survey. After that, the researchers approached some of the participants to gain more insights into the impact of ChatGPT via semi-structured interviews.

Sample

The target population for this study was Vietnamese non-English-major undergraduates from a private university in Ho Chi Minh City. These students were seniors who had completed all the required English courses. As a result, they had accumulated about two years of English learning at the university level. It is noteworthy that ChatGPT was launched in late 2020. This introduction coincided with the timeframe during which these students were actively enrolled in their English courses starting in 2021. This overlap presented an opportunity to explore whether they utilized ChatGPT to enhance their language learning, particularly in the development of L2 listening skills. To investigate this, data collection took place during the final year of the participants' studies in early 2024, which allowed for an analysis of their engagement with ChatGPT during their academic journey.

To recruit participants, the researchers contacted instructors responsible for teaching the English course these targeted students were learning. Two instructors granted permission to distribute

surveys during class sessions. A total of 245 participants completed the survey through convenience sampling, and 11 of them voluntarily participated in the interview with a balanced representation of gender. The participants were from three main disciplines: Business and Management (68%), followed by Technology and Data, and Social Sciences and Humanities, each accounting for 16%. Regarding gender distribution, male students occupied 31% of the participants while female students made up the majority at 69%.

The participants did not receive formal training on using ChatGPT for listening development. However, they reported varied experiences with the platform for various purposes. The most frequent use was for academic activities, followed by seeking answers and entertainment. While listening-specific use was not explicitly stated, this study argued that incidental exposure to ChatGPT features might contribute to L2 listening development. These features, including AI-generated dialogues, interactive transcripts, pronunciation feedback, and comprehension support, can facilitate improvements in their listening.

The participants reported using both mobile and web-based versions of ChatGPT, with their choice depending on convenience and accessibility. This mixed usage highlights the flexibility in how learners engage with ChatGPT, which may influence the effectiveness of its features in supporting listening development.

Research instruments

The first instrument for collecting data was a questionnaire, including two main sections. The first one is to collect personal information of the respondents while the second section is to capture their opinions on the role of ChatGPT in enhancing some listening-related aspects. These items were developed on the ground of the relevant literature, covering six contributing factors in developing English listening skills, as presented in Table 1. They were constructed in the form of statements, and the respondents were asked to rate their level of agreement according to their personal experiences. A 5-point Likert scale was employed, with responses ranging from 1 (strongly agree) to 5 (strongly disagree), to quantify their degree of agreement. Once the questionnaire was completed, it was piloted with five students and validated by two colleagues of the researchers, who are experts in the field.

Table 1.
Literature sources used to develop survey items

Themes	**Literature**
Vocabulary	Lange and Matthews (2020); Vandergrift and Baker (2015)
Pronunciation	Dao et al. (2020); Medina et al. (2020)
Grammar	Cai and Min (2024); Joyce (2019)
Strategies	Milliner and Dimoski (2024); Siegel (2015)
Working memory	Andringa et al (2012); Clark et al. (2014); Wallace (2022)
Motivation	Qiu and Xu (2023); Ryan and Deci (2020)

The literature review by Kohnke et al. (2023) was adapted as guidelines for constructing the semi-structured interview protocol which primarily focused on exploring the learners' understanding of ChatGPT's benefits, their experiences using the AI tool, and their cognizance of the inherent drawbacks or challenges in using it for enhancing EFL listening skills. The interviews were conducted in the participants' mother tongue, Vietnamese, to ensure the accuracy and validity of the qualitative data collected.

Data collection & analysis

Regarding data collection, first, after being granted permission from the head of the Faculty of

English and the teacher in charge, the researchers approached the five English classes one by one to collect data. The researchers explained the purposes of the research and asked for their consent to fill out the questionnaire. After that, participants were provided a Google Form to get access to the questionnaire. It took them about 15 minutes to complete the survey. For the next phase, after the researchers outlined the interview's purpose to gain deeper insights into participants' use of ChatGPT, 11 out of 245 participants voluntarily opted to participate. While no strict selection criteria were imposed, the researchers sought to achieve a balanced representation of gender and proficiency levels to enhance the diversity of perspectives. These participants included 6 males and 5 females, and each interview lasted about 20 to 30 minutes.

Quantitative data collected was analyzed using the SPSS Statistics Version 26. Descriptive and inferential statistics were calculated. Subsequently, the transcripts of the interview then were analyzed using thematic analysis. The employed analysis, as outlined by Nowell et al. (2017) included six phases: familiarizing with the transcripts, generating initial codes, searching for themes, reviewing themes, defining themes, and synthesizing the findings. Two raters conducted the analysis separately to ensure the inter-rater reliability.

Results

Perceived potential benefits of using ChatGPT to enhance English listening skills

When asked whether ChatGPT could help enhance English listening skills, the learners' opinions were divided. Notably, in the survey, only 54% of participants believed in the potential applicability of ChatGPT in cultivating English listening skills. Nearly half remained uncertain about the possibilities. The majority of the interviewees (9 out of 11) reported that ChatGPT helped develop L2 listening due to its functions in expanding vocabulary knowledge and providing tips for improving listening. As S11 explained: "*I think ChatGPT supports me to get better at listening because it offers me synonyms that enhance my vocabulary learning. This makes it easier for me to understand when I listen*." In contrast, other participants said that they rarely used it for listening practice, so they were unsure about its impact. For example, S2 noted: "*I haven't tried using ChatGPT to improve my English listening skills yet. However, I think it can be a useful and quick tool for finding information".* These findings suggest varying levels of familiarity with ChatGPT's features related to listening skills among the students. In other words, many students appear not to fully recognize the possibility of ChatGPT's listening-related functionalities.

However, a closer examination of specific listening-related aspects, as presented in Table 2, reveals that the students could somehow recognize certain advantages of ChatGPT in enhancing these linguistic factors. Overall, the results reflected a generally positive outlook among respondents on the use of ChatGPT in improving listening skills. Particularly, ChatGPT was perceived to be the most impactful on lexical development (M=2.5, SD=1.27), followed by improvements in grammar knowledge (M=2.6, SD=1,17) and working memory (M=2.6, SD=1,15). In terms of its effectiveness in improving listening strategies (M=2.7, SD=1.2), pronunciation (M=2.8, SD=1.2), and learner motivation (M=2.8, SD=1,21), participants expressed ambiguity.

Table 2.
Descriptive statistics of ChatGPT's potential benefits (N=245)

Theme	Mean	SD	Opinion
Vocabulary	2.5	1.27	Agree
Pronunciation	2.8	1.20	No ideas
Grammar	2.6	1.17	Agree
Strategies	2.7	1.20	No ideas
Working Memory	2.6	1.15	Agree
Motivation	2.8	1.21	No ideas

ChatGPT and vocabulary

Regarding lexical knowledge, shown in Table 3, the participants believed that ChatGPT could be most efficiently used for meaning-seeking purposes (M=2.3, SD=1.29), while its ability to expand their vocabulary (M=2.5, SD= 1.29) and explain vocabulary usage (M=2.6, SD=1.22) received slightly lower agreement.

Table 3.
Descriptive statistics of ChatGPT's potential benefits in vocabulary (N=245)

Vocabulary	Mean	SD	Opinion
Explaining the meanings of unfamiliar words or phrases in listening passages.	2.3	1.29	Agree
Learning how to use unfamiliar words or phrases from listening passages.	2.6	1.22	Agree
Expanding my vocabulary to improve my listening skills.	2.5	1.29	Agree

These ideas are further reinforced by insights from interview analysis where all of the interviewees concurred that they could enrich their lexical knowledge thanks to the assistance of ChatGPT, as highlighted in the following interview quotes:

> *Probably, it provides me with a broader vocabulary compared to outside sources, specifically on the topics I want. I can search for those topics and find vocabulary related to them, expanding my vocabulary further.* (S3)

> *I think it can help me learn vocabulary useful for my listening because if I put the keyword in, it will describe a lot of new vocabulary. Like when I put the topic in, ChatGPT will list a series of new vocabulary.* (S8)

ChatGPT and pronunciation

As displayed in Table 4, the respondents showed limited awareness of ChatGPT's features, such as providing phonetic transcriptions (M= 2.7, SD=1.21), helping them familiarize themselves with speech rates (M=2.8, SD=1.17), and generating dictation tasks for further practice (M=2.8, SD=1.23). Moreover, the students expressed neutral opinions on its assistance with pronunciation (M=2.9, SD=1.17) and feedback on pronunciation accuracy (M=2.9, SD=1.2). These findings indicate that students may not consider ChatGPT as a helpful tool for pronunciation-related tasks.

Table 4.
Descriptive statistics of ChatGPT's potential benefits in pronunciation (N=245)

Pronunciation	Mean	SD	Opinion
Offering phonetic transcriptions for unfamiliar words to aid my pronunciation.	2.7	1.21	No ideas
Assisting in pronouncing words correctly.	2.9	1.17	No ideas
Giving feedback on the intelligibility of my pronunciation.	2.9	1.20	No ideas
Helping familiar with speech rate during interactions.	2.8	1.17	No ideas
Improving my listening with dictation tasks.	2.8	1.23	No ideas

Additional backing for these ideas is provided by findings from qualitative analysis. Half of the interviewees contended that ChatGPT can offer guidance on how to pronounce a word. This is pointed out by S1: "*Similar to Google Translate and other apps, ChatGPT will provide me with a phonetic transcription first, and then I can follow it to read along. Also, the voice of ChatGPT is easier to listen to compared to other applications.*" However, some participants were unaware of this feature. For instance, S4 asserted that "*I find that ChatGPT only displays the text, so for my pronunciation, ChatGPT doesn't do as well as apps that specialize in English or language learning*".

ChatGPT and grammar

As for grammar knowledge, as depicted in Table 5, learners recognized the advantages of using ChatGPT to enhance listening skills such as understanding unfamiliar grammatical structures (M=2.5, SD=1.18), applying grammar correctly in contexts (M=2.6, SD=1.15), and improving overall grammar knowledge (M=2.6, SD=1.18).

Table 5.
Descriptive statistics of ChatGPT's potential benefits in grammar (N=245)

Grammar	Mean	SD	Opinion
Helping to understand unfamiliar grammatical structures.	2.5	1.18	Agree
Guiding me to use unfamiliar grammatical structures.	2.6	1.15	Agree
Strengthening my grammar knowledge to develop my listening.	2.6	1.18	Agree

While most interviewees agreed that ChatGPT can provide clear explanations of unfamiliar structures, some participants expressed doubts about its reliability and reported no experience using ChatGPT for this purpose. For instance, S10 shared: "*ChatGPT will explain in detail what structure they are using in this sentence, and why it is like that. Some words I recognize only as verbs, but when ChatGPT combines them, they turn into nouns.*" In contrast, S7 remarked: " *I don't know because I rarely use ChatGPT to check grammar. And I am not sure if its answers are correct or not.*"

ChatGPT and listening strategies

Table 6 details the items in the strategies category, participants expressed a neutral stance towards its role in providing tips (M=2.7, SD=1.27), helping identify the keywords (M=2.7, SD=1.2), and offering guidance on note-taking (M=2.7, SD=1.18). However, ChatGPT was found useful for its capacity to detect errors in students' work (M=2.6, SD=1.18) and recommend listening sources with various authentic accents (M=2.6, SD=1.18). The results demonstrate that students may find ChatGPT more useful for task-oriented support rather than

general strategy development.

Table 6.
Descriptive statistics of ChatGPT's potential benefits in strategies (N=245)

Strategies	Mean	SD	Opinion
Providing useful listening tips for improving my listening.	2.7	1.27	No ideas
Helping to identify keywords in the listening passages.	2.7	1.20	No ideas
Helping to learn to take notes for listening.	2.7	1.18	No ideas
Helping to identify my problems after my listening tasks.	2.6	1.18	Agree
Offering authentic listening sources for my practice.	2.6	1.18	Agree

In terms of qualitative data, there was unanimous agreement among all interviewees that ChatGPT is beneficial for offering advice on effective listening, as illustrated by the following excerpts from the interviews:

> *I once asked ChatGPT how to listen to a task most effectively, and it analyzed for me which parts of the sentence I needed to focus on. So, ChatGPT can support me in that aspect.* (S3)

> *Because it tends to propose solutions and, when displayed in text form, it does that well. It's like Google, but more specialized in the area where I input the data and it provides the output, so I think it does a good job with that.* (S4)

ChatGPT and memory

As demonstrated in Table 7, participants agreed that ChatGPT can provide effective techniques (M=2.6, SD=1.13) and listening tasks (M=2.6, SD=1.17) for strengthening memory. However, they were uncertain about its value of helping summarize listening content (M=2.7, SD=1.15) to improve listening skills. This suggests that ChatGPT is perceived as more useful for reinforcing memory through targeted exercises rather than supporting complex cognitive tasks like summarization.

Table 7.
Descriptive statistics of ChatGPT's potential benefits in memory (N=245)

Working memory	Mean	SD	Opinion
Offering tips to improve my working memory for developing listening.	2.6	1.13	Agree
Providing me with listening tasks to boost my working memory.	2.6	1.17	Agree
Helping me learn to summarize while listening, which strengthens my memory.	2.7	1.15	No ideas

Further evidence supporting these ideas is found in interview analysis where all the interviewees expressed uncertainty about this possibility. A representative response comes from S6, who commented: "*I don't think ChatGPT can help improve memory. That is because memory is something related to the ability to concentrate. And this depends on each listener.*"

ChatGPT and motivation

Survey respondents exhibited neutrality regarding the motivational role of the ChatGPT in

encouraging further listening practice through games and challenges (M=2.9, SD=1.26), offering personalized contents (M=2.8, SD=1.18), simplifying tasks (M=2.8, SD=1,22), and fostering engagement for autonomous learning (M=2.8, SD=1.16), as outlined in Table 8. This ambivalence shows that students may not fully acknowledge ChatGPT as a strong driver of motivation for listening skill development.

Table 8.
Descriptive statistics of ChatGPT's potential benefits in motivation (N=245)

Motivation	Mean	SD	Opinion
Creating listening challenges and games, getting me motivated to listen more.	2.9	1.26	No ideas
Facilitating topic selection that fits my interests and level, making learning enjoyable.	2.8	1.18	No ideas
Making listening tasks manageable and keeping me engaged.	2.8	1.22	No ideas
Being a virtual tutor for my autonomous listening.	2.8	1.16	No ideas

When asked about the underlying reasons for this motivational force, most of the interviewees indicated that receiving feedback on their tasks gave them a sense of control over their learning, leading to an increased motivation to continue studying. As reflected by S1: "*When I do something and my results keep improving, it creates great motivation for me to keep doing it. ChatGPT has helped me understand the material better, allowing me to improve my listening skills. As my listening gradually increases, it motivates me to continue.*" On the other hand, those who expressed uncertainty explained that their motivation was more dependent on their desire to learn, rather than ChatGPT itself. This is illustrated by a quote from S5, stating "*For me, whether I am motivated to listen or not depends on myself. If I want to learn, I will learn. It is not the external tool that can motivate me*."

Students' gender and academic disciplines and their perceptions of ChatGPT's use for listening

Table 9 displays the results of the Mann-Whitney U test to compare students' perceptions in six domains (Vocabulary, Pronunciation, Grammar, Strategies, Working Memory, and Motivation) between two gender groups. All the p-values across six domains are greater than 0.05, which suggests no significant differences in all listening-related factors between genders. In other words, gender does not appear to influence students' perceptions of ChatGPT's benefits in listening-related aspects significantly.

Table 9.
Independent Samples t-Test between gender groups

Theme	t	Sig.(2-tailed)	SD
Vocabulary	.064	.949	.156
Pronunciation	.677	.499	.139
Grammar	.029	.977	.143
Strategies	.164	.870	.141
Working Memory	.221	.825	.142
Motivation	.209	.834	.146

As descriptive statistics of all the six variables demonstrated a reasonable normal distribution, One-Way ANOVA was run to see whether students' majors have any impact on their views on ChatGPT's use in all six factors. The results indicate that all six variables show statistically significant differences across the three groups (Social Sciences and Humanities, Technology and Data, and Business and Management). Table 10 illustrates the statistics from post-hoc

analysis (Tukey's HSD).

Table 10.
Results from posthoc analysis between academic disciplines

	Vocabulary		**Pronunciation**		**Grammar**		**Strategies**		**Memory**		**Motivation**	
	Sig.	**SD**	**Sig.**	**SD**	**Sig.**	**SD**	**Sig.**	**SD**	**Sig.**	**SD**	**Sig.**	**SD**
Business and Management	.204	.208	0.420	.191	.108	.194	.073	.189	.147	.193	.237	.197
Social Sciences and Humanities	.204	.208	0.420	.191	.108	.194	0.73	.189	.147	.193	.237	.197
Technology and Data	**.000**	.196	**.008**	.180	**.002**	.183	**.000**	.073	**.011**	.182	**.000**	.186

As seen in the table, across all six domains, the students majoring in Technology and Data show more agreement in the benefits of ChatGPT than those specializing in Business and Management with all the p-values smaller than 0.05. On the contrary, the Social Sciences and Humanities group did not show significant differences compared to either the Business and Management or Technology and Data groups in most areas. In summary, the advantages of ChatGPT's use in all listening-related domains are most recognized by the Technology and Data group, followed by Social Sciences and Humanities. Business and Management students exhibit the lowest evaluations of ChatGPT's values in these aspects.

Discussion

Overall, the students exhibited positive outlooks on the benefits of ChatGPT in the enhancement of L2 listening. Particularly, ChatGPT's applicability was seen as potential to expand both lexical resources and grammar knowledge, as well as improve working memory while neutral, yet positive, opinions towards its effectiveness in improving pronunciation, providing listening strategies, and fostering listening motivation were collected from the participants.

One notable finding is that while ChatGPT is regarded as positively influential in expanding learners' lexical resources, and grammatical knowledge, it has minimal impact on pronunciation. Vocabulary knowledge has been perceived as a key predictor of the performance of L2 listeners (Masrai, 2022; Milton & Treffers-Daller, 2013). Since decoding L2 input requires interpreting the meaning of unknown words or phrases (Aryadoust, 2022), the larger the vocabulary size an L2 learner can expand, the more proficient they become at comprehending L2 information. Another reason is related to the learners' level of language proficiency. Taking advantage of ChatGPT as a dictionary for up-leveling lexicons is considered a foundational approach to the bottom-up process in English listening. Within this type of listening, L2 learners' linguistic knowledge is manifested to make sense of the incoming spoken input. Goh (2023) and Rost (2011) stress that less-skilled L2 listeners are beneficiaries of bottom-up listening since it gradually upgrades their lexicons and improves their pronunciation. As the vocabulary size of low-proficiency learners is elevated, they are likely to recognize words or phrases more accurately and follow the flow of aural input with confidence.

This justification is also applicable to understanding why ChatGPT is widely employed for the acquisition of grammar. As learners' grammar is strengthened, their listening abilities can similarly benefit (Cai & Min, 2024). Regarding the limited advantages of ChatGPT in pronunciation, this is understandable due to the missing function of recognizing speech, as noted by Xing (2023). While ChatGPT is renowned for its ability to engage users in a human-

like fashion, these AI-generated conversations are text-based, except for the mobile phone version. This limitation of ChatGPT in processing auditory input and producing spoken speech could impede the acquisition of listening skills.

Given the fact that the enhancement of pronunciation certainly contributes to the improvement of listening skills (Dao et al., 2020; Zhou & Wu, 2023), more features supporting the pronunciation aspects should be incorporated in ChatGPT not only in its mobile phone version but also in its web-based versions (Liao et al., 2023). In this way, ChatGPT could minimize the verbal absence within its interactions with users, and promote authentic and natural conversations, thus nurturing the acquisition of listening skills.

Another result highlights that ChatGPT is found to be more useful for task-oriented support rather than general strategy development. Simply put, ChatGPT could offer some tips for learners to tackle particular listening tasks. When learners are exposed to listening strategies in a conscious manner, their listening repertoire gets bigger, which results in more effective listening (Fung & Lo, 2023; Siegel, 2015). Memory-related tasks are considered typical activities in this respect. Students viewed ChatGPT as valuable for offering tips and genuine listening exercises that help strengthen their working memory. These suggestions might include simple strategies such as chunking, or repetition that help listeners reduce extraneous load, save cognitive load necessary to process incoming phonological stimulations, and optimize the capacity of working memory. This finding echoes the argument of Wallace (2022) stating that these strategies apply to cognitive processes such as memory retention. However, though these tips are to boost cognitive processes, after all, they are still verbal suggestions or metacognition-driven. The responsibility to maximize those benefits lies in the hands of the learners. Regardless of the nature of the strategies, all have been shown to be beneficial for improving learners' listening abilities, as reflected in previous studies (Ahmadi Safa & Motaghi, 2024; Fung & Lo, 2023; Milliner & Dimoski, 2024).

It was also found that ChatGPT provides only partial motivation for learners in the realm of listening development. Although motivation has been proven to have positive impacts on listening efforts and outcomes (Carolan et al., 2022; Ryan & Deci, 2020), ChatGPT's perceived contribution to this aspect appears to be limited. One possible explanation is the lack of audio-based interaction between the AI chatbot and users, which limits the engaging and interactive listening encounters. Therefore, in the area of listening, ChatGPT is not widely regarded as a virtual tutor for autonomous learning. This suggests that while the AI chatbot is capable of providing personalized learning materials suitable to learners' preferences and language proficiency, its deficiency in aural provision might hinder its impact on the role of promoting autonomy among EFL listeners.

The findings reveal that students' perceptions of ChatGPT's benefits in listening-related aspects are not significantly affected by gender. This aligns with the study by Ho and Nguyen (2024) who found no impact of gender on students' views on the effectiveness of ChatGPT. However, gender is found to shape how learners use ChatGPT (Arthur et al., 2024; Baek et al., 2023; Bouzar et al., 2024; Elshaer et al., 2024). This disparity may stem from variations in how male and female students approach and interact with the platform, influencing their usage patterns rather than their overall perceptions.

It was also found that there are differences in perceptions of ChatGPT benefits among academic disciplines. Students majoring in Technology and Data are the most receptive to using ChatGPT in developing listening skills, followed by those in Social Sciences and finally, Humanities and Business and Management. This finding indicates that students in technological fields show more readiness to integrate ChatGPT into their learning and seem to embrace its capabilities

most for improving listening development. These results support Elshaer et al.'s study (2024), which stated that students' majors play a vital role in moderating the relationship between social influence and ChatGPT usage. Specifically, social influence has a greater impact on ChatGPT usage among students in social sciences than those in applied sciences.

Conclusion

The main goal of the study is to explore the perceptions among 245 Vietnamese non-English-major undergraduates about the impacts of ChatGPT on enhancing L2 listening. It also examines the roles of gender and academic disciplines in the perceptions of ChatGPT use. The findings show that the students perceived varying degrees of its effectiveness across different aspects of L2 listening development. Specifically, ChatGPT is seen as a useful tool for expanding vocabulary and grammar knowledge, as well as strengthening working memory, but its effectiveness in improving pronunciation, listening strategies, and motivation is viewed with some skepticism. While gender is found to have no impact on students' views on ChatGPT usage in listening development, there are some variations among students in different disciplines.

Lexical and grammatical resources are prevalently significant to the acquisition of L2 listening since they are great predictors of success in listening comprehension. Teachers could leverage ChatGPT's strength in expanding vocabulary and grammar knowledge to turn it into a useful tool for the pre-listening stage by designing tasks for EFL learners to explore word meanings and sentence structures. Moreover, due to the lack of an audio-based nature, teachers could complement the AI tool by incorporating external auditory material into lessons. ChatGPT-generated texts could be uttered via a third-party platform that possesses speech recognition or speech synthesis, helping learners practice intonation, stress patterns and getting acquainted with a variety of accents. Additionally, the study suggests that ChatGPT falls short of motivating and promoting autonomous learning to EFL listeners with low language proficiency. This finding necessitates the advent of teacher intervention, where they can scaffold ChatGPT-based listening activities with structured guidance throughout three stages of listening. While ChatGPT offers general tips on improving working memory, its assistance in higher-order cognitive strategies is questionable. Therefore, teachers should provide explicit metacognitive strategies instruction or guide learners on how to make use of ChatGPT as a resource to prepare before listening and follow up with personalized, teacher-mediated activities for engaging in higher-order cognitive processes of summarization or inferencing. As there are some variations in how students with different majors view the benefits of ChatGPT in developing listening skills, targeted instructions and guidance should be provided for those less receptive to ChatGPT so that they can make the most use of ChatGPT potential.

Despite the descriptive nature of this study, the results contribute significantly to the ever-growing, yet insufficient, body of literature regarding the applicability of ChatGPT in the development of L2 listening. The study's limited sample size and narrow scope highlight the need for further research. Future investigations should aim to establish the causal relationship between the use of ChatGPT and improvement in L2 listening skills to enrich this area of study.

References

Ahmadi Safa, M., & Motaghi, F. (2024). Cognitive vs. metacognitive scaffolding strategies and EFL learners' listening comprehension development. *Language Teaching Research*, *28*(3), 987-1010. https://doi.org/10.1177/13621688211021821

Andringa, S., Olsthoorn, N., Van Beuningen, C., Schoonen, R., & Hulstijn, J. H. (2012). Determinants of Success in Native and Non-Native Listening Comprehension: An Individual Differences approach. *Language Learning*, *62*(2), 49–78. https://doi.org/10.1111/j.1467-9922.2012.00706.x

Arthur, F., Salifu, I., & Abam Nortey, S. (2024). Predictors of higher education students' behavioral intention and usage of ChatGPT: The moderating roles of age, gender and experience. *Interactive Learning Environments*, *33*(2), 1-27. https://doi.org/10.1080/10494820.2024.2362805

Aryadoust, V. (2022). The known and unknown about the nature and assessment of L2 listening the known and unknown about the nature and assessment of L2. *International Journal of Listening*, *36*(2), 69–79. https://doi.org/10.1080/10904018.2022.2042951

Aryadoust, V. (2024). Topic and accent coverage in a commercialized L2 listening test: Implications for test-takers' identity. *Applied Linguistics*, *45*(5), 765-785. https://doi.org/10.1093/applin/amad062

Baddeley, A. (2000). The episodic buffer: A new component of working memory? *Trends in Cognitive Sciences*, *4*(11), 417–423. https://doi.org/10.1016/s1364-6613(00)01538-2

Baek, C., Tate, T., & Warschauer, M. (2023). "ChatGPT seems too good to be true": College students' use and perceptions of generative AI. *University of California*, *7*(9), 1–43. https://doi.org/10.1016/j.caeai.2024.100294

Bouzar, A., El Idrissi, K., & Ghourdou, T. (2024). Gender differences in perceptions and usage of ChatGPT. *International Journal of Humanities and Educational Research*, *6*(2), 571–582. https://doi.org/10.47832/2757-5403.25.32

Brown, G., & Yule, G. (1983). *Discourse analysis*. Cambridge University Press. https://doi.org/10.1017/cbo9780511805226

Buck, G. (2001). *Assessing listening*. Cambridge University Press. https://doi.org/10.1017/cbo9780511732959

Cai, H., & Min, S (2024). Listening and grammatical knowledge. In E. Wagner, A. Batty. & E. Galaczi (Eds.), *The Routledge Handbook of Second Language Acquisition and Listening* (pp. 161-173). Routledge. https://doi.org/10.4324/9781003219552

Carney, N. (2021). Diagnosing L2 listeners' difficulty comprehending known lexis. *TESOL Quarterly*, *55*(2), 536–567. https://doi.org/10.1002/tesq.3000

Carolan, P. J., Heinrich, A., Munro, K. J., & Millman, R. E. (2022). Quantifying the effects of motivation on listening effort: A systematic review and meta-analysis. *Trends in Hearing, 26*. https://doi.org/10.1177/23312165211059982

Clark, M., Wayland, S., Osthus, P., Brown, K. G., Castle, S., & Ralph, A. (2014). *The effects of note taking on foreign language listening comprehension*. University of Maryland. https://govtilr.org/Publications/Notetaking.pdf#

Creswell, J. W., & Creswell, J. D. (2023). *Research design*. SAGE Publications. https://spada.uns.ac.id/pluginfile.php/510378/mod_resource/content/1/creswell.pdf

Dao, P., Nguyen, M. X. N. C., & Nguyen, N. B. C. (2021). Effect of pronunciation instruction on L2 learners' listening comprehension. *Journal of Second Language Pronunciation*, *7*(1), 10-37. https://doi.org/10.1075/jslp.19012.dao

Derwing, T., & Munro, M. (2001). What speaking rates do non-native listeners prefer? *Applied Linguistics*, *22*(3), 324–337. https://doi.org/10.1093/applin/22.3.324

Dong, Q., Li, L., Dai, D., Zheng, C., Wu, Z., Chang, B., Sun, X., Xu, J., Li, L., & Sui, Z. (2023). A survey on in-context learning. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2301.00234

Duong, T. T. M., Can, V. D., & Nguyen, V. H. (2024). The use of ChatGPT in teaching and learning: A systematic review through SWOT analysis approach. *Frontiers in Education*, *9(2), 1-17*. https://doi.org/10.3389/feduc.2024.1328769

Elshaer, I. A., Hasanein, A. M., & Sobaih, A. E. E. (2024). The moderating effects of gender and study discipline in the relationship between university students' acceptance and use of ChatGPT. *European Journal of Investigation in Health, Psychology and Education*, *14*(7), 1981–1995. https://doi.org/10.3390/ejihpe14070132

Field, J. (2009). *Listening in the language classroom*. Cambridge University Press. https://doi.org/10.1017/cbo9780511575945

Fung, D., & Lo, Y. Y. (2023). Listening strategies in the English Medium Instruction (EMI) classroom: How students comprehend the teacher input. *System*, *113(4)*, 103004. https://doi.org/10.1016/j.system.2023.103004

Goh, C. C. (2000). A cognitive perspective on language learners' listening comprehension problems. *System*, *28*(1), 55–75. https://doi.org/10.1016/s0346-251x(99)00060-3

Gur, T., Dilci, T., Coskun, İ., & Delican, B. (2013). The impact of note-taking while listening on listening comprehension in a higher education context. *International Journal of Academic Research*, *5*(1), 93–97. https://doi.org/10.7813/2075-4124.2013/5-1/b.16

Hayashi, K., & Sato, T. (2024). The effectiveness of ChatGPT in enhancing English language proficiency and reducing second language anxiety (L2). *WorldCALL2023*. https://doi.org/10.22492/issn.2759-1182.2023.23

Hong, W. C. H. (2023). The impact of ChatGPT on foreign language teaching and learning: opportunities in education and research. *Journal of Educational Technology and Innovation*, *5*(1), 37-45. https://doi.org/10.61414/jeti.v5i1.103

Hua, H. H., & Le, T. T. (2024). Exploring the impact of AI in language education: Vietnamese EFL teachers' views on using ChatGPT for fairy tale retelling tasks. *International Journal of Learning, Teaching and Educational Research*, *23*(3), 486–503. https://doi.org/10.26803/ijlter.23.3.24

Irianto, T. U., Sari, A., & Laili, I. (2022). Exploring learners' perceptions with ChatGPT as an English language learning tool. *Journal of English Language Teaching*, *8*(2), 616–621. https://doi.org/10.30998/scope.v8i2.22283

Joyce, P. (2019). The relationship between L2 listening proficiency and L2 aural language processing. *PASAA, 57*(1), 9-32. https://doi.org/10.58837/CHULA.PASAA.57.1.2

Kissling, E. M. (2018). Pronunciation instruction can improve L2 learners' bottom-up processing for listening. *The Modern Language Journal, 102*(4), 653-675. https://doi.org/10.1111/modl.12512

Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning. *RELC Journal*, *54*(2), 537–550. https://doi.org/10.1177/00336882231162868

Kostka, I., & Toncelli, R. (2023). Exploring applications of ChatGPT to English language teaching: Opportunities, challenges, and recommendations. *TESL-EJ*, *27*(3). https://doi.org/10.55593/ej.27107int

Kozachek, D. (2023). Investigating the perception of the future in GPT-3, -3.5 and GPT-4. In *Creativity and Cognition*. https://doi.org/10.1145/3591196.3596827

Lange, K., & Matthews, J. (2020). Exploring the relationships between L2 vocabulary knowledge, lexical segmentation, and L2 listening comprehension. *Studies in Second Language Learning and Teaching*, *10*(4), 723–749. https://doi.org/10.14746/ssllt.2020.10.4.4

Lau, K. L. (2016). Strategy use, listening problems, and motivation of high-and low-proficiency Chinese listeners. *The Journal of Educational Research, 110*(5), 503-514. https://doi.org/10.1080/00220671.2015.1134421

Liao, H., Xiao, H., & Hu, B. (2023). Revolutionizing ESL teaching with Generative Artificial Intelligence—Take ChatGPT as an example. *International Journal of New Developments in Education*, *5*(20), 39-46. https://doi.org/10.25236/IJNDE.2023.052008

Lu, C., & Dang, T. N. Y. (2023). Effect of L2 exposure, length of study, and L2 proficiency on EFL learners' receptive knowledge of form–meaning connection and collocations of high-frequency words. *Language Teaching Research*. 1(3), 1-21. https://doi.org/10.1177/13621688231155820

Luu, V. T., Lian, A. P., & Siriyothin, P. (2021). Developing EFL learners' listening comprehension through a computer-assisted self-regulated prosody-based listening platform. *Computer-Assisted Language Learning Electronic Journal, 22*(1), 254-271. https://callej.org/index.php/journal/article/view/330

Lynch, T., & Mendelsohn, D. (2010). Listening. In N. Schmitt (Ed.), *An Introduction to Applied Linguistics* (2nd ed.). Routledge. https://doi.org/10.4324/9780203783733

Masrai, A. (2022). The relationship between two measures of L2 phonological vocabulary knowledge and L2 listening comprehension. *TESOL Journal*, *13*(1), 1-16. https://doi.org/10.1002/tesj.612

Matthews, J., & Cheng, J. (2015). Recognition of high-frequency words from speech as a predictor of L2 listening comprehension. *System*, *52 (8)*, 1–13. https://doi.org/10.1016/j.system.2015.04.015

Medina, A., Socarrás, G., & Krishnamurti, S. (2020). L2 Spanish listening comprehension: The role of speech rate, utterance length, and L2 oral proficiency. *Modern Language Journal*, *104*(2), 439–456. https://doi.org/10.1111/modl.12639

Milliner, B., & Dimoski, B. (2024). The effects of a metacognitive intervention on lower-proficiency EFL learners' listening comprehension and listening self-efficacy. *Language Teaching Research*, *28*(2), 1-35. https://doi.org/10.1177/13621688211004646

Milton, J., & Treffers-Daller, J. (2013). Vocabulary size revisited: the link between vocabulary size and academic achievement. *Applied Linguistics Review*, *4*(1), 151–172. https://doi.org/10.1515/applirev-2013-0007

Montenegro-Rueda, M., Fernández-Cerero, J., Fernández-Batanero, J. M., & López-Meneses, E. (2023). Impact of the implementation of ChatGPT in education: A Systematic review. *Computers*, *12*(8), 153-172. https://doi.org/10.3390/computers12080153

Ngo, T. T. A. (2023). The perception by university students of the use of ChatGPT in education. *International Journal of Emerging Technologies in Learning/International Journal: Emerging Technologies in Learning*, *18*(17), 4–19. https://doi.org/10.3991/ijet.v18i17.39019

Nguyen, H. N., Nguyen, D., Tran, L. P. T., & Tran, T. H. N. (2024). Exploring English Vocabulary Learning of Vietnamese Secondary School Students with VoiceGPT Assistance. *AsiaCALL Online Journal*, *15*(1), 55–70. https://doi.org/10.54855/acoj.241514

Nguyen, P. H., & Nguyen, B. D. (2024). An investigation into Third-Year ELT students' perceptions of using ChatGPT as an AI Writing Assistant tool: A Case Study in Vietnam. *International Journal of Arts Humanities and Social Sciences Studies*, *9*(5), 41–55. https://www.ijahss.com/Paper/09052024/1179451928.pdf

Nguyen, T. H. B., & Tran, T. D. H. (2023). Exploring the efficacy of ChatGPT in language teaching. *AsiaCALL Online Journal*, *14*(2), 156–167. https://doi.org/10.54855/acoj.2314210

Nguyen, T. T. H. (2023). EFL teachers' perspectives toward the use of ChatGPT in writing classes: A case study at Van Lang University. *International Journal of Language Instruction*, *2*(3), 1–47. https://doi.org/10.54855/ijli.23231

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International journal of qualitative methods*, *16*(1), 1-13. https://doi.org/10.1177/1609406917733847

Pham, T. T., Nguyen, L. A. D., Dang, H. M., & Le, T. T. P. (2024). Exploring tertiary Vietnamese EFL Students' engagement in vocabulary learning through the use of an AI tool. *Proceedings of the AsiaCALL International Conference*, *4(2)*, 129–149. https://doi.org/10.54855/paic.23410

Pham, V. P. H., & Le, A. Q. (2024). ChatGPT in language learning: Perspectives from Vietnamese students in Vietnam and the USA. *International Journal of Language Instruction*, *3*(2), 59–72. https://doi.org/10.54855/ijli.24325

Phan, T. N. L. (2023). Students' perceptions of the AI Technology application in English writing classes. *Proceedings of the AsiaCALL International Conference*, 45–62. https://doi.org/10.54855/paic.2344

Rost, M. (2011). *Teaching and Researching: Listening* (2nd ed.). Routledge. https://doi.org/10.4324/9781315833705

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, *61(4)*, 101860. https://doi.org/10.1016/j.cedpsych.2020.101860

Shaojie, T., Samad, A. A., & Ismail, L. (2022). Systematic literature review on audio-visual multimodal input in listening comprehension. *Frontiers in Psychology*, *13(9), 1-11*. https://doi.org/10.3389/fpsyg.2022.980133

Siegel, J. (2015). *Exploring Listening Strategy Instruction through Action Research*. Palgrave Macmillan London. https://doi.org/10.1057/9781137521903

Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: Assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students. *Frontiers in Psychology*, *14(12), 1-14*. https://doi.org/10.3389/fpsyg.2023.1260843

Sweller, J. (2011). Cognitive Load Theory. In J. P. Mestre & B. H. Ross (Eds.), *The psychology of learning and motivation: Cognition in education* (pp. 37–76). Elsevier Academic Press. https://doi.org/10.1016/b978-0-12-387691-1.00002-8

Tran, T. N., & Tran, H. P. (2023). Exploring the role of ChatGPT in developing critical digital literacies in language learning: A Qualitative study. *Proceedings of the AsiaCALL International Conference*, *4*, 1–17. https://doi.org/10.54855/paic.2341

Vandergrift, L. (2007). Recent developments in second and foreign language listening comprehension research. *Language Teaching*, *40*(3), 191–210. https://doi.org/10.1017/s0261444807004338

Vandergrift, L., & Baker, S. (2015). Learner variables in second language listening comprehension: An exploratory path analysis. *Language Learning*, *65*(2), 390–416. https://doi.org/10.1111/lang.12105

Vandergrift, L., & Goh, C. C. (2012). *Teaching and learning second language listening: Metacognition in action* (1st ed.). Routledge. https://doi.org/10.4324/9780203843376

Vo, A., & Nguyen, H. (2024). Generative Artificial Intelligence and ChatGPT in language learning: EFL students' perceptions of technology acceptance. *Journal of University Teaching and Learning Practice*, *21*(6), 1-19. https://doi.org/10.53761/fr1rkj58

Vu, D. C., Lian, A. P., & Siriyothin, P. (2022). Integrating natural language processing and multimedia databases in CALL software: Development and evaluation of an ICALL application for EFL listening comprehension. *Computer-Assisted Language Learning Electronic Journal*, *23*(3), 41-69. https://callej.org/index.php/journal/article/view/412

Wang, Y. (2021). An improved machine learning and artificial intelligence algorithm for classroom management of English distance education. *Journal of Intelligent & Fuzzy Systems*, *40*(2), 3477–3488. https://doi.org/10.3233/jifs-189385

Wu, T., He, S., Liu, J., Sun, S., Liu, K. , Han, Q., & Tang, Y. (2023). A brief overview of ChatGPT: the history, status quo and potential future development. *IEEE/CAA Journal of Automatica Sinica*, *10*(5), 1122–1136. https://doi.org/10.1109/jas.2023.123618

Xing, R. (2023). Advancements in English listening education: Chat GPT and convolutional neural network integration. *Journal of Pedagogical Research, 7(5),279-290*. https://doi.org/10.33902/jpr.202323980

Yang, S., & Bai, H. (2020). The integration design of artificial intelligence and normal students' Education. *Journal of Physics. Conference Series*, *1453*(1), 012090. https://doi.org/10.1088/1742-6596/1453/1/012090

Zadorozhnyy, A., & Lai, W. Y. W. (2023). ChatGPT and L2 written communication: A game-changer or just another tool? *Languages*, *9*(1), 1-11. https://doi.org/10.3390/languages9010005

Zhang, L. J., & Shen, Y. (2022). What two decades of research into L2 listening in System tells us: Looking back for looking forward. *System*, *112(2)*, 102970. https://doi.org/10.1016/j.system.2022.102970

Zhang, Y., & Yang, Q. (2022). A survey on multitasks learning. *IEEE Transactions on Knowledge and Data Engineering*, *34*(12), 5586–5609. https://doi.org/10.1109/tkde.2021.3070203

Zhao, Y. (1997). The effects of listeners' control of speech rate on second language comprehension. *Applied Linguistics*, *18*(1), 49–68. https://doi.org/10.1093/applin/18.1.49

Zhou, Y., & Wu, P. (2023). Integrating phonetics into elementary listening teaching for enhanced international students' pronunciation: A linguistic approach. *Eurasian Journal of Applied Linguistics*, *9*(2), 58–72. https://doi.org/10.32601/ejal.902006

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