Undergraduate Students' Perceptions on the Use of ChatGPT for English Learning at a Korean University

ALLAN JAY ESTEBAN[1*]
ILEE PARK[2]
NGUYEN THI NGA[2]
SANJA PERUNOVIC[2]
SI EUN PARK[2]
SHEHZADI[2]
JONG-IL YI[3]

[1]*Department of English and Humanities, College of Arts and Social Science, Central Luzon State University, Philippines*

[2]*Department of British and American Language and Culture, Graduate School, Kyung Hee University Global Campus, South Korea*

[3]*International Affairs, Seoul National University of Science and Technology, South Korea*

*Corresponding author email: allajayesteban@clsu.edu.ph

Article information	Abstract
	ChatGPT continues to grow in popularity, and English education is not an exemption to the potential of this generative AI. This study examines how undergraduate Korean and international students at a private university in South Korea perceive the effectiveness and utility of ChatGPT in improving English language learning. Utilizing a mixed-methods approach, demographic profiles and 5-point Likert scale responses provide insights into students' perspectives. Statistical analyses revealed gender differences. Female participants showed more positive attitudes toward ChatGPT's usefulness for learning grammar and improving listening skills. They also found ChatGPT more engaging, trustworthy, and recommendable for English language learning. In addition, statistically significant findings suggest that Korean students are more likely than foreign students to perceive the potential of ChatGPT in improving English listening skills. Qualitative analysis further highlights ChatGPT's benefits in vocabulary acquisition, error correction, and reading or writing improvements but uncovers concerns about accuracy inconsistencies and limitations in comprehensive language learning. Therefore, this study emphasizes that generative AI, such as ChatGPT, can enhance language learning. However, this study also recognizes the needs for future developments to create a more balanced approach to language learning in the age of AI.

INTRODUCTION

The field of Technology-Enhanced Language Learning (TELL) is rapidly evolving, reflecting the growing importance of technology as a critical component in language education. This evolution,

driven by continuous technological advancements, has fundamentally altered the approach to teaching and learning languages. Remarkably, the emergence of Artificial Intelligence (AI) in TELL has introduced innovative tools and methods that significantly extend the scope of traditional classroom learning (Shadiev & Yang, 2020).

The adoption of technology in language education has been met with considerable support, especially in areas such as pronunciation training and conversational practice. Evidence suggests that technology positively influences various aspects of language learning, including enhancing communication, providing feedback, boosting motivation, and increasing awareness of language structure (Shadiev & Yang, 2020).

In the sphere of AI tools for language learning, a clear distinction is observed. On one side, there are general AI tools like machine translators and chatbots, which, although not specifically designed for English education, have found widespread use in teaching both spoken and written English. Conversely, tools specifically developed for learning English are mainly used for grammar and vocabulary training such as Grammarly (Chun et al., 2021). AI-driven language learning apps are shifting away from traditional methods like rote memorization, offering personalized learning experiences instead. These apps leverage technologies such as natural language processing and voice recognition to enhance learner autonomy and stimulate interest in language learning (Xianhua, 2019).

Among these advancements, ChatGPT stands out as a significant development. ChatGPT, a sophisticated chatbot developed by OpenAI, is a prime example of such technology. Using advanced Natural Language Processing techniques, it has shown remarkable performance in various applications such as dialogue systems, text generation, and language translation (Alawida et al., 2023). It is unique in its ability to understand the context of dialogues, which is crucial in language education for engaging learners in conversation occurring in real life (Lee et al., 2019). ChatGPT, moving beyond basic information retrieval, promotes comprehensive language development. This advancement in language learning technology has been underscored in several studies, demonstrating its impact on enhancing interactive dialogues and addressing complex educational challenges (Alawida et al., 2023; Seo & Kim, 2023). However, integrating ChatGPT into language learning effectively still requires educators to guide and encourage students to make the most of their educational potential (Hwang, 2023).

Despite the substantial progress and diverse uses of AI in language learning, there remains a significant research gap, particularly regarding learner's experiences with ChatGPT. While the capabilities of ChatGPT and its benefits in TELL are increasingly acknowledged, existing literature predominantly focuses on its technical capacities and instructional applications with less emphasis on direct learner interactions and perceptions. More research is needed to explore how learners perceive and use this tool in an English language learning context. Understanding these perceptions is crucial to gauge the effectiveness of ChatGPT as a learning tool, to see how it meets learners' needs, and to identify areas for improvement in its educational use.

Building on this broader research gap, relatively few studies have directly investigated students' perceptions of using ChatGPT for English learning, particularly among undergraduates from

diverse academic backgrounds. Furthermore, limited research has focused on Korean university students, including both domestic and international learners, and how they use ChatGPT in their English language development. Therefore, this study focuses on exploring the perceptions of Korean and foreign undergraduate students at a Korean university using ChatGPT for English learning. The study aims to provide insights into how learners view this advanced AI tool and its influence on their language learning. This investigation is timely and relevant for enhancing language learning experiences with technology, considering the rapid integration of AI tools like ChatGPT in educational settings.

LITERATURE REVIEW

AI-based learning

As a byproduct of digital technologies, AI has become a part of daily lives, and it has been making advances in various fields, such as transportation, customer service, healthcare, finance and many more. Consequently, it has also been applied in education for personalized learning, adaptive learning platforms, and automated grading (Chen et al., 2020; González-Calatayud et al., 2021). AI has become a transformative force in education, changing from conventional learning environments to advanced educational approaches such as game-based learning, personalized learning, learning analytics, and evidence-centered assessments (Kinshuk et al., 2016). In 1978, Vygotsky highlighted how crucial it is to modify instruction in order to meet each student's unique learning demands (Brown, 2014). AI tools play a crucial role in contributing to this aspect of personalized learning. By using AI tools, it is possible to adapt instructional materials to each student's skills, interests, and development, which can foster more effective learning experiences (Chen et al., 2020; Murtaza et al., 2022). For instance, computer programs known as intelligent teaching systems (ITSs) have been gaining popularity in AI-based education in the past years. ITSs use artificial intelligence (AI) to provide students with personalized and adaptable instruction (Lin et al., 2023). That is, ITSs provide tailored guidance and feedback to learners, while mimicking the role of a human tutor (VanLEHN, 2011).

Besides ITS, AI technologies generated a plethora of effective educational tools, such as intelligent feedback systems, AI chatbots, AI tutors, deep-learning performance evaluations and image/gesture recognition (Jia et al., 2022). As a result, traditional learning environments are changing into smart learning environments and there are new emerging innovations such as flipped classrooms, game-based learning, and immersive environments for language instruction (Esteban, 2024; Esteban et al., 2024; Kinshuk et al., 2016). For instance, Kahoot! is an example of a platform used for game-based learning where teachers can create quizzes, surveys and discussions while students can participate using their smartphones or other devices (Correia & Santos, 2017). Leap Motion is a technology used for gesture based learning that can be used to create interactive learning experiences, where students can manipulate virtual objects or conduct virtual experiments using hand gestures (Păvăloiu, 2017). In previous studies, it has been generally shown that learners perceive AI-based language learning to be useful (Li & Peng, 2021; Medina & Calvo-Ferrer, 2022; Woo & Choi, 2021). Li and Peng (2021) evaluated a flipped class teaching model based on an AI Language Learning Platform. Their

results showed that although the AI-based language learning did not significantly increase students' English listening scores, the students had a more positive attitude toward their English listening experience. Furthermore, students' cognitive workloads were alleviated and their confidence in classroom discussions was increased. Woo and Choi's study (2021) about the review of AI tools and their use showed a positive impact on psychological factors such as confidence, anxiety, immersion, and presence in the participants. In addition, after using those AI tools, the learners demonstrated improvements in their language abilities, attitudes, knowledge, and language use. The AI tools were used to identify errors, provide feedback, and assess or evaluate language abilities. Furthermore, Medina and Calvo-Ferrer (2022) conducted a study on chatbots as AI conversational partners in language learning and the results showed participants' positive attitudes regarding the ease of use and attitudes towards the chatbots.

Despite the promising developments, there are also challenges in the adoption of AI-based learning, such as technical limitations, ethical concerns, and the need for effective teacher training (Pedro et al., 2019). The most frequently raised questions about AI-based learning are ethical questions. In order to ensure the ethical application of AI in education, researchers and practitioners must critically navigate ethical dilemmas such as data privacy, power dynamics, transparency and accountability, as well as the possibility of worsening the existing biases and discrimination in education due to the algorithmic bias (Williamson & Eynon, 2020).

Chat GPT in language learning and skill development

ChatGPT is an AI-based chatbot that functions as a conversational agent. As an offspring of the groundbreaking GPT-3, ChatGPT was developed and introduced by OpenAI in November 2020 as a research preview. Over time, the tool has been refined and updated to incorporate reinforcement learning from human user feedback (Ray, 2023). Applications of ChatGPT are increasingly found in the field of education, particularly language learning, offering users an interactive platform to enhance their language skills. Indeed, recent research has demonstrated the model's adaptability to various language tasks. The emergence of ChatGPT and its implementation prompt emerging research to explore its role and impact in learning activities.

ChatGPT has become a helpful tool for various language learning tasks such as reading, writing (reports and essays); error correction (structural, punctuation, and grammatical errors); translation; research-related tasks (literature review, brainstorming research questions, ideas, and surveys); and coding and programming (Kohnke et al., 2023; Muñoz et al., 2023; Owens, 2023; Shoufan, 2023; Singh et al., 2023). The model is claimed to facilitate the development of multiple skills for learners such as information analysis, critical thinking, composition, problem-solving, decision-making, and so forth (Kung et al., 2023; Shoufan, 2023).

In terms of learners' perception, ChatGPT has been positively regarded in several studies (Bonsu & Baffour-Koduah, 2023; Shoufan, 2023). Participants in Shoufan's study reported that the model has a human-like interface with well-organized and well-explained answers (Shoufan, 2023). Furthermore, from both researchers' and learners' perspectives, ChatGPT holds the potential to serve as a helpful companion in language practice by offering scaffolding, providing instant feedback, suggesting activities to bolster language proficiency, and enhancing personalized learning (Bin-Hady et al., 2023; Firat, 2023; Xiao & Zhi, 2023).

At the same time, there are some drawbacks of ChatGPT generated responses as well as several ethical issues associated with the use of ChatGPT in academic studies. Shoufan's (2023) study on engineering students' perceptions of learning experiences with the assistance of ChatGPT indicates a key concern about its inconsistent accuracy, which is consistent with the finding of other studies (Sok & Heng, 2023). This is partly due to the inability of ChatGPT to draw on the most up-to-date information. For instance, the last update for 2023's information was in January 2022. The students in Shoufan's study believe that a solid expertise in the field is needed for an effective utilization of this tool. Other potential drawbacks include copyright issues and societal biases (Kasneci et al., 2023; Sok & Heng, 2023). Moreover, students tend to be overly dependent on the tool (Kasneci et al., 2023; Sok & Heng, 2023), which may lead to their inability to tap on their own language or intelligence, and potentially resulting in plagiarism and affecting their academic integrity. That is, while ChatGPT showcases immense potential in facilitating language learning and skill acquisition, as demonstrated by various studies, it also presents challenges in terms of accuracy, dependency, and ethical considerations

In educational contexts, perceived usefulness reflects learners' evaluation of the utility and effectiveness of AI tools in achieving learning outcomes, while perceived ease of use relates to the system's accessibility and user-friendliness (Chen et al., 2020; Grájeda et al., 2024). Studies employed Technology Acceptance Model (TAM), a framework which suggests that perceived usefulness and perceived ease of use are key determinants of users' attitudes toward technology and their intention to adopt it (Hsu & Lin, 2022; Kwangsawad et al., 2024; Liu & Ma, 2024). Consequently, prior research confirms that technologies perceived as both beneficial and easy to use are more likely to be positively received and consistently utilized by students (Alyoussef & Omer, 2023; Choi et al., 2023; Han & Geng, 2023). Therefore, this study anchored on TAM to provide a theoretical rigor on the examination of learners' perceptions of the utility and effectiveness of ChatGPT as a platform for English language learning.

The emergence of AI-based learning tools, particularly ChatGPT, has marked a significant shift in educational paradigms, especially in language acquisition and skill development. While related studies noted that students perceive AI-based language learning as useful, there is still a lack of research on students' perceptions on the use of ChatGPT for language learning. Furthermore, previous studies on learners' perception of ChatGPT were predominantly conducted on students from non-language majors (Firat, 2023; Shoufan, 2023; Xiao & Zhi, 2023). Thus, there is a need for studies on both non-language-major and language-major learners' perspective of using ChatGPT for language learning. Moreover, existing research mostly followed a qualitative approach, more quantitative and large-scale studies are essential to juxtapose with, generalize, or verify the findings of prior studies. Therefore, this study aims to explore the perception of Korean and foreign undergraduate students on the use of ChatGPT for language learning, particularly English learning. Specifically, this study answers the following questions:

1. How do Korean and international undergraduate students perceive the utility and effectiveness of ChatGPT in enhancing their English language skills?
2. What are the advantages and disadvantages identified by undergraduate students regarding the use of ChatGPT for English learning, and how do these perceptions influence their likelihood of recommending ChatGPT to peers?

METHODOLOGY

Research design

The study employed a mixed-methods approach to comprehensively explore university students' perceptions of using ChatGPT for English learning (Song & Song, 2023). Considering the multifaceted nature of the research questions and the diverse demographic characteristics of the sample, this approach was necessary to obtain a nuanced understanding of participants' attitudes and experiences. By combining quantitative and qualitative methods, the study gathered both numerical data on participants' attitudes and behaviors as well as rich, detailed insights into the underlying reasons and contextual factors shaping the perceptions of the participants (Fetters et al., 2013). This mixed-methods design enhanced the validity and reliability of the study results, and enabled a more holistic interpretation of the data collected.

Participants

The study involved a total of 90 participants, which comprised 63.30% females and 36.70% males. Out of 90, 66 participants (73.40%) were between the ages of 20 and 24. Furthermore, the majority of the participants included 78 Korean students (86.70%) and 12 foreign students (13.30%), comprising students from Bangladesh, China, Philippines, Russia, Tajikistan, USA, and Uzbekistan. It should be noted that the Korean and foreign student participants in this study are exclusively from a single private university in South Korea. Regarding self-rated English proficiency, 40 participants (44.40%) classified themselves as intermediate, while 37 participants (41.10%) indicated that they had been studying English for a duration of five years. Hence, Table 1 presents the summary of the profile of the participants, which is crucial for comprehending possible differences in perceptions based on demographic factors (see Table 1 for further information).

Table 1
Profile of the participants

Variables		*N*	%
Gender	Male	33	36.70%
	Female	57	63.30%
Age	18	2	2.20%
	19	11	12.20%
	20	11	12.20%
	21	10	11.10%
	22	16	17.80%
	23	15	16.70%
	24	14	15.60%
	25	4	4.40%
	27	3	3.30%
	28	1	1.10%
	29	2	2.20%
	30	1	1.10%
Nationality	Korean	78	86.70%
	Foreign Students	12	13.30%

Variables		*N*	%
Self-rated English Proficiency	Beginner	7	7.80%
	Lower Intermediate	11	12.20%
	Intermediate	40	44.40%
	Upper Intermediate	22	24.40%
	Advanced	10	11.10%
Years of Learning English	1	5	5.60%
	2	12	13.30%
	3	18	20.00%
	4	18	20.00%
	More than 5 years	37	41.10%

Data collection and instruments

Survey on ChatGPT use

The questionnaire utilized in the study was designed by the researchers to address the research questions. The first part of the survey collected demographic data such as age, gender, nationality, self-rated English proficiency level, and the year of learning English. This part aimed to provide a detailed profile of the participants, which enabled a contextual understanding of their perceptions of ChatGPT based on their distinct backgrounds. The second part of the survey employed a 5-point Likert scale questionnaire to assess participants' attitudes and perceptions regarding the utility and effectiveness of ChatGPT as a tool for learning the English language. The questions in this part of the survey were grouped into utility and effectiveness as guided by TAM framework (Hsu & Lin, 2022; Kwangsawad et al., 2024; Liu & Ma, 2024). Then, four open-ended questions were included to validate participants' responses obtained from the Likert scale survey and to gather further insights into their perceptions (See Appendix).

Data analysis

Pilot test and reliability test

Prior to the primary survey, a pilot testing was carried out to enhance the survey tool and verify its reliability. Several revisions were made in terms of typological errors, spelling, and questions clarity. Moreover, since the survey was administered through Google Form, one technical issue was addressed. Specifically, selecting only one response instead of multiple responses in the 5-point Likert scale part. The internal consistency of the survey was evaluated using Cronbach's alpha coefficient, which indicated a high level of reliability at 0.925.

Quantitative analysis

The quantitative data collected from the 5-point Likert scale survey responses were analyzed using fundamental statistical tools, including descriptive, frequency, and percentage. Furthermore, separate statistical analyses (independent *t*-test and one-way ANOVA) were carried out to investigate potential differences in perspectives among different demographic categories, such as the participants' gender, age, nationality, self-rate English proficiency level, and years of learning English.

Qualitative analysis

A thematic analysis approach was utilized to analyze the responses collected from the open-ended survey portion (Braun & Clarke, 2006). The analysis included discerning recurrent themes, patterns, and categories within the responses (Joffe, 2011; Shoufan, 2023). To ensure clarity, undifferentiated data were excluded, and plural instances of data from a respondent were considered as individual responses (Lindemann, 2005). It should be noted that because of this reason, the counts of the responses were not included in the final presentation of the results as indicated in the tables under the Results of the Qualitative Analysis part to avoid misconception (Braun & Clarke, 2006). Also, the codes assigned were kept as close to the participants' original responses as possible, minimizing interpretation of their intentions. Hence, this qualitative analysis provided a deeper understanding of participants' perceptions regarding the use of ChatGPT for English learning, which yielded more comprehensive insights and specific investigation and triangulation of the data gathered.

RESULTS

Results of the quantitative analysis on ChatGPT use for English learning

This section explicates the answer to research question one. The statements from the survey were grouped into *utility* and *effectiveness* to present the perceived usefulness ChatGPT. Table 2 reveals participants' moderate comfort of using ChatGPT in English learning (Statement 1: M = 2.62, SD = 1.034) and perceived convenience (M = 2.6, SD = 1.058). Participants expressed moderate engagement (Statement 2: M = 3.02, SD = 1.06) and a fair preference for ChatGPT in their future learning (Statement 3: M = 2.71, SD = 1.104), with a similar recommendation tendency (Statement 4: M = 2.7, SD = 1.136). While they reported substantial aid in speaking (Statement 10: M = 3.36, SD = 1.164) and listening skills (Statement 11: M = 3.47, SD = 1.182), perceived support for writing (Statement 9: M = 2.2, SD = 0.939) and reading skills (Statement 12: M = 2.34, SD = 1.083) was particularly lower. Strengthening ChatGPT's assistance in writing and reading skills, alongside strategies to boost trust (Statement 5: M = 2.77, SD = 1.017) in its accuracy and reliability, emerged as crucial areas for improvement in optimizing its effectiveness for language learning. Hence, these findings indicate that participants' perceived ChatGPT's utility (M = 2.76, SD = 1.07) and effectiveness (M = 2.77, SD = 1.09) as moderately favorable. These findings reflect a generally positive but cautious stance toward its role in English learning.

Table 2
Descriptive statistics of participants' perception on ChatGPT for English learning

	Statements	*M*	*SD*
	1. I am fully comfortable with using ChatGPT in English learning.	2.62	1.034
	2. Using ChatGPT makes my English learning experience more engaging.	3.02	1.060
Utility	3. In the future, I would prefer ChatGPT as my choice for English learning.	2.71	1.104
	4. I recommend ChatGPT to other students for English learning.	2.70	1.136
	5. I trust ChatGPT as a language learning assistant.	2.77	1.017
Overall Utility		**2.76**	**1.070**

	Statements	M	SD
Effectiveness	6. I feel it is convenient to learn English with the help of ChatGPT.	2.60	1.058
	7. ChatGPT helps me to better understand English vocabulary.	2.71	1.084
	8. ChatGPT helps me to better understand English grammar.	2.73	1.100
	9. ChatGPT helps me to improve my English writing skills.	2.20	0.939
	10. ChatGPT helps me to improve my English speaking.	3.36	1.164
	11. ChatGPT helps me to improve my English listening skills.	3.47	1.182
	12. ChatGPT helps me to improve my English reading skills.	2.34	1.083
Overall Effectiveness		**2.77**	**1.090**

Table 3 summarizes the *t*-test results on participants' perceptions of ChatGPT's utility and effectiveness for English learning based on gender and nationality. On the one hand, statistically significant gender-based differences emerged in four areas. Female participants perceived ChatGPT as significantly more engaging (Statement 2: $p = 0.03$), more recommendable to peers (Statement 4: $p = 0.00$), and more trustworthy as a language learning assistant (Statement 5: $p = 0.00$) than male participants. They also reported statistically greater perceived improvement in their English listening skills (Statement 11: $p = 0.04$). On the other hand, nationality-based differences showed fewer statistically significant effects. Interestingly, a statistically significant result was found only for English listening skills, with Korean participants more likely to report improvement through ChatGPT (Statement 11: $p = 0.01$). These findings suggest that gender and nationality statistically influence learners' perceptions of ChatGPT's utility and effectiveness, with stronger affordances observed in utility.

Table 3

Results of t-test for the use of ChatGPT for English learning by gender and nationality

	Statements	Gender				Nationality			
		df	t	F	p	df	t	F	p
U T I L I T Y	1. I am fully comfortable with using ChatGPT in English learning.	88	-2.75	0.00	0.98	88	2.29	0.02	0.88
	2. Using ChatGPT makes my English learning experience more engaging.	88	-2.27	4.74	0.03*	88	2.82	0.29	0.59
	3. In the future, I would prefer ChatGPT as my choice for English learning.	88	-1.49	0.93	0.34	88	0.71	2.42	0.12
	4. I recommend ChatGPT to other students for English learning.	88	-0.98	10.45	0.00*	88	2.65	2.69	0.10
	5. I trust ChatGPT as a language learning assistant.	88	-1.14	8.92	0.00*	88	2.24	0.02	0.88
E F F E C T I V E N E S S	6. I feel it is convenient to learn English with the help of ChatGPT.	88	-2.51	0.10	0.76	88	1.24	1.06	0.31
	7. ChatGPT helps me to better understand English vocabulary.	88	-0.3	1.20	0.28	88	1.90	1.29	0.26
	8. ChatGPT helps me to better understand English grammar.	88	-0.24	3.47	0.07	88	1.65	0.80	0.37
	9. ChatGPT helps me to improve my English writing skills.	88	-0.84	0.47	0.49	88	1.13	2.30	0.13
	10. ChatGPT helps me to improve my English speaking.	88	-1.27	0.49	0.47	88	0.87	0.04	0.85
	11. ChatGPT helps me to improve my English listening skills.	88	-1.19	4.35	0.04*	88	2.60	7.40	0.01*
	12. ChatGPT helps me to improve my English reading skills.	88	-1.5	1.36	0.25	88	2.39	3.39	0.07

Notes: *p < 0.05*, rounded off to two decimal points

Table 4 shows the results of the one-way ANOVA. It demonstrates that participants' self-rated English proficiency levels had no statistically significant impact on their perceptions of ChatGPT's utility and effectiveness across all items (all $p > .05$), suggesting consistent attitudes regardless of proficiency. In contrast, years of learning English showed a statistically significant effect on one item. Participants perceived effectiveness of ChatGPT in helping them understand English grammar (Statement 8: $F(4, 88) = 2.70$, $p = 0.04$). Therefore, these findings suggest that the longer participants learned English, the more ChatGPT helped them understand English grammar.

Table 4
Results of one-way ANOVA on self-rated English proficiency and years of learning English

	Statements	Self-Rated Proficiency					Years of Learning English				
		SS	MS	df	F	p	SS	MS	df	F	p
U T I L I T Y	1. I am fully comfortable with using ChatGPT in English learning.	4.34	1.09	4	1.07	0.40	3.29	0.82	4	0.76	0.55
	2. Using ChatGPT makes my English learning experience more engaging.	5.07	1.27	4	1.14	0.35	5.93	1.48	4	1.34	0.26
	3. In the future, I would prefer ChatGPT as my choice for English learning.	2.80	0.70	4	0.56	0.69	3.38	0.85	4	0.68	0.61
	4. I recommend ChatGPT to other students for English learning.	3.73	0.93	4	0.71	0.59	4.98	1.25	4	0.96	0.43
	5. I trust ChatGPT as a language learning assistant.	0.42	0.10	4	0.10	0.98	3.20	0.80	4	0.77	0.55
E F F E C T I V E N E S S	6. I feel it is convenient to learn English with the help of ChatGPT.	1.71	0.43	4	0.37	0.83	0.88	0.22	4	0.19	0.94
	7. ChatGPT helps me to better understand English vocabulary.	3.76	0.94	4	0.79	0.53	5.98	1.49	4	1.29	0.28
	8. ChatGPT helps me to better understand English grammar.	4.43	1.11	4	0.91	0.46	12.13	3.03	4	2.70	0.04*
	9. ChatGPT helps me to improve my English writing skills.	2.14	0.54	4	060	0.67	2.87	0.72	4	0.81	0.52
	10. ChatGPT helps me to improve my English speaking.	0.85	0.21	4	0.15	0.96	3.29	0.82	4	0.60	0.67
	11. ChatGPT helps me to improve my English listening skills.	4.29	1.07	4	0.76	0.56	0.71	0.18	4	0.12	0.97
	12. ChatGPT helps me to improve my English reading skills.	2.93	0.73	4	0.61	0.65	0.67	0.17	4	0.14	0.97

Notes: *p < 0.05*, Sum Square: *SS*, Mean Square: *MS*, rounded off to two decimal points

Results of the qualitative analyses on ChatGPT use for English learning

This section unveils the answer to research question two of this study. While the findings of the quantitative analyses expounded the utility and effectiveness of ChatGPT in English learning, the results of the qualitative analyses further illustrated the benefits and drawbacks associated with utilizing ChatGPT for learning English. Insights from the open-ended question responses of the participants revealed distinct themes, which shed light on how ChatGPT aids or complicates the process of learning English.

Functions of ChatGPT for language learning

Aside from the utility and effectiveness of ChatGPT in English learning as grounded in TAM, participants identified functions of the tool such as its *Supportive use*, its role as an *Interlocutor,* and its *Usability* (see Table 5). In this study, these functions refer to specific roles and/or affordances of ChatGPT as experienced by the participants.

Supportive use encompasses ChatGPT's roles in *Proofreading, Translation,* and *Instructional coach.* These findings indicate how learners actively leverage its functionalities to improve language skills. Results suggest that *Proofreading* is one of the key functions of ChatGPT among participants. For instance, one participant mentioned that "*Yes, I believe ChatGPT has assisted me in enhancing my English skills by guiding me toward constructing sentences in a more formal manner*." It is also noted that they remarked on the use of the ChatGPT as a *Translation* tool. This can be gleaned from this sample response from one of participants, "*It provides smooth translation when the content is difficult to understand.*" Findings also stressed ChatGPT's affordance as an Instructional coach, providing support and guidance to users through interactions. This is explained by the response, "*I think using ChatGPT forces me to communicate more clearly so I can input a prompt that the AI can work with.*"

ChatGPT is also considered as an *Interlocutor* with which learners can communicate authentically in English. What is notable is that some participants considered it helpful to be required to formulate clear prompts to acquire desirable results. One of them shared, "*I think using ChatGPT forces me to communicate more clearly so I can input a prompt that the AI can work with.*" Finally, ChatGPT's Usability remarks its accessibility and efficiency as a tool that can support English learning, which supports TAM. One respondent remarked on such contextualization through this response: "*I think it would be a good idea to use it because it answers questions quickly and has the highest level of application and comprehensiveness.*" One respondent, surprisingly, asked ChatGPT how to learn English, which means ChatGPT is recognized as a generative tool which can individualize instructional methods by the user's need.

Table 5

Features in ChatGPT helping English skill improvement

Category	Examples
Supportive Use	Proofreading, Translation, Instructional coach
Interlocutor	Clear prompt, Authentic communication
Usability	Accessibility, Efficiency

Distinctly, the significant responses for vocabulary enhancement and error checking align with literature highlighting ChatGPT's aid for vocabulary growth and proofreading tasks (Kung et al., 2023). This reaffirms the tool's prevalent use for language learning, particularly centered on vocabulary enrichment and error correction, consistent with the literature's emphasis. Correspondingly, the reported aspects of communicative use, the need for clear prompts, and recognition of ChatGPT as a generative tool coincide with the literature's assertions about ChatGPT's potential for fostering communication and personalized learning experiences (Firat, 2023; Xiao & Zhi, 2023).

Advantages of ChatGPT for English learning

This section discusses students' opinions on the benefits of using ChatGPT for English learning and highlights their concerns about its effectiveness. The researchers categorized two main characteristics of the usage of ChatGPT for English learning: (1) *Language skills development* and (2) *Information search system* (see Table 6).

Language skills development

Under the categories of *Vocabulary acquisition* and *Language skills development*, participants reported that ChatGPT facilitated learning new words, synonyms, antonyms, and various word meanings, which supported the enhancement of language skills—a benefit in line with the documented aid of ChatGPT in multiple language learning tasks (Kung et al., 2023; Shoufan, 2023). Consequently, participants acknowledged the tool's role in identifying and rectifying grammatical errors, which echoed its assistance in learning grammar as previously noted in the literature (Firat, 2023; Kohnke et al., 2023). This affordance is evident in the excerpt below:

> The advantage of utilizing ChatGPT for learning English is that it helps you become aware of the grammatical errors you make.

Participants regarded ChatGPT's support in writing adaptation for different contexts such as sentence construction and reading comprehension, which echoes with the documented role of ChatGPT in assisting writing practices and improving reading skills (Shoufan, 2023). Furthermore, participants' perceptions of the tool's contribution to speaking skills development, such as enabling natural conversations, receiving immediate feedback, and maintaining language immersion, correspond with prior findings on the positive impact of AI tools on language abilities, confidence, and immersion (Li & Peng, 2021; Woo & Choi, 2021). This is evident from the excerpt below:

> I believe that you can maintain immersion in learning English because you can ask questions without time and space constraints. You can solve any questions you have right away, and if you don't understand, you can continue to ask questions, so you can study without interruption.

Information search system

Under this category, participants lauded ChatGPT's function in facilitating quick and efficient information search, which resonates with its convenience as an information search system noted in earlier studies (Kohnke et al., 2023; Muñoz et al., 2023). One respondent noted, "*You can solve any questions you have right away, and if you don't understand, you can continue to ask questions, so you can study without interruption.*" Also, the tool's effectiveness in language interpretation and translation tasks resonates with previous research that highlighted the ease of use and reliability of AI chatbot in translation (Medina & Calvo-Ferrer, 2022).

Table 6

Advantages of ChatGPT for English learning

Categories	Advantages
Language Skills Development	Vocabulary acquisition, Aid for learning grammar, English writing assistance, Support for reading and speaking skills development
Information Search System	Convenient search Engine, Fast retrieval of information, Medium of translation

However, these positive perceptions and benefits must be juxtaposed with the ethical concerns and drawbacks identified in prior studies (Kasneci et al., 2023; Shoufan, 2023; Sok & Heng, 2023). The inconsistencies in accuracy, limitations in accessing up-to-date information, and overreliance on ChatGPT found in the participants' feedback reflect the challenges documented in previous research on AI-based learning, which emphasized the need for caution in the ethical application of such tools in education (Pedro et al., 2019; Williamson & Eynon, 2020).

Disadvantages of using ChatGPT

The section illustrates the challenges associated with the use of ChatGPT in the domain of language learning and skill development. The researchers discovered three categories based on the gathered data from the undergraduate students' attitudes to the usage of ChatGPT for English learning: (1) *Challenges in the retrieval of information*, (2) *Negative effects on cognitive skills,* and (3) *Limited language skills development* (see Table 7).

Challenges in the retrieval of information

This highlights other several issues such as uncertainties regarding the accuracy of the information, communication misunderstandings, and limitations in providing updated data (Sok & Heng, 2023). This concern is highlighted by the following excerpt from one participant: "*Although all AIs, including ChatGPT, have made a lot of progress, it seems that there are many cases where they do not understand context, flow, etc. In terms of accuracy, AI provides information that has not been verified, and users who learn it may use incorrect expressions in real situations, which may lead to difficult situations.*" While ChatGPT has been favorably acknowledged for its user-friendly interface and various language-related tasks it supports, it also faces significant shortcomings.

Negative effects on cognitive skills

Negative effects on cognitive skills encompass an over dependence on the tool, which could lead to decreased critical thinking, lack of interaction in real-world scenarios, and biases toward specific language skills such as reading over others (Kung et al., 2023; Shoufan, 2023). One participant, for example, noted "*Overdependence, poor thinking ability.*" This overreliance can hinder problem-solving abilities and impede the development of essential cognitive skills that are necessary for navigating complex tasks and situations effectively.

Limited language skills development

Apart from the above categories, this category accentuates limited access to learning language progress with the usage of ChatGPT among participants. Some of the participants remarked ChatGPT's bias towards reading and writing skills. For example, one participant elucidated this limitation, "*Can only improve writing and reading skills.*" Accordingly, ChatGPT does not help much with listening and speaking, and sometimes prompts errors in grammar and coherence.

The presented findings emphasize the dual nature of ChatGPT, which portrays its promising potential alongside the significant hurdles it confronts. Addressing these limitations is critical to optimize ChatGPT's contribution to educational settings. Enhancing its accuracy, minimizing biases, and ensuring ethical utilization are pivotal for effectively harnessing the strengths of ChatGPT. By surmounting these challenges, ChatGPT can play a more substantial role in facilitating a comprehensive and balanced approach to language skill development among learners.

Table 7
Disadvantages of ChatGPT in terms of English learning while using ChatGPT

Categories	Disadvantages
Challenges of Retrieval Information	Misinformation issues, Undesirable and unreliable response, Interpretation problems, Unnatural response
Negative Effects on Cognitive Skills	Over dependency, Decrease problem-solving skills, Lack of interaction
Limited Language Skills Development	Limited information, Grammar errors, Misused for vocabulary, Limited improvement of other language skills

Recommendation for ChatGPT use

Various reasons for these recommendations are detailed in Table 8. The results highlighted ChatGPT's effectiveness in error correction and aiding learners' Development of critical thinking, as shown in previous studies (Kung et al., 2023; Shoufan, 2023). Similarly, practical usage aspects, such as simulation for interaction, explanations, and translation, align with the literature's recognition of ChatGPT's utility in providing scaffolding, instant feedback, and personalized learning experiences (Bin-Hady et al., 2023; Firat, 2023). One respondent emphasized how interaction can be feasible through the tool, "*I think using ChatGPT allows users to learn how to respond appropriately in specific situations (if the prompt is written well). It's useful for simulating different kinds of interactions.*" However, certain categories like Cognitive Development and Engagement and motivation contrast with the literature's emphasis on ChatGPT's potential to foster critical thinking and motivation through personalized interactions, which suggest that these aspects might be less highlighted or perceived by users.

Table 8

Reasons for recommending ChatGPT for English learning

Category	Reasons
Cognitive Development	Develop critical thinking
Educational Efficiency	Effectiveness, Saving time, Fast and easy
Engagement and Motivation	Teacher role, Motivation, Making questions
Language Skill Development	Vocabulary, Grammar, Speaking, Writing, Reading comprehension
Practical Usage	Simulation for interaction, Expressions suit one's situation, Substitute tool for English natives, Solving questions, Explanation information, Translation

This study revealed potential differences in the prominence of certain attributes of ChatGPT's usefulness in English learning compared to what has been emphasized in previous research (Bin-Hady et al., 2023; Firat, 2023; Kung et al., 2023; Shoufan, 2023). The alignment in several categories underpins the tool's multifaceted support for Language skill development and Practical use, corroborating the existing literature's claims regarding ChatGPT's role in aiding language acquisition and educational practices. This is evident through this excerpt: "*I would recommend using ChatGPT for learning English, as it can enhance both vocabulary and grammar constructions.*" Nonetheless, the categories suggest potential variability in user perceptions or emphasize different aspects of ChatGPT's functionality that might not align precisely with the predominant themes highlighted in prior research, necessitating further investigation and understanding of user experiences and preferences.

Furthermore, the reasons outlined in Table 9 for not recommending ChatGPT for English learning highlight several concerns and perceptions regarding its efficacy, efficiency, and suitability for different learner groups. For instance, the category Lack of efficacy resonates with findings in the literature that suggest some users perceive ChatGPT as inadequate or less effective compared to traditional learning tools like dictionaries and textbooks. This perception may stem from concerns about over-dependence or a Preference for traditional methods, such as using textbooks (Kasneci et al., 2023; Sok & Heng, 2023). This contextualization resonates with one participant's assertion that "*It's better to read a book in analog format, and even if you use GPT, speaking or conversation doesn't improve, so it's not helpful.*" Moreover, the categories emphasizing the tool's limited applicability for specific groups, such as Only for IT, Not for professionals or those planning to live abroad, and Doesn't work for young learners, indicate perceived constraints or limitations in ChatGPT's suitability for diverse learner demographics or purposes, which aligns with the literature's concerns about its varied effectiveness across different contexts (Shoufan, 2023). One of the participants remarked "*Recommended for students who have a certain level of discernment, such as college students, and have various purposes for learning English. However, not recommended for middle and high school students.*" Moreover, the category Cognitive impact raising concerns about ChatGPT potentially undermining thinking skills corresponds with findings in the literature discussing issues related to over-reliance on AI tools and their potential impacts on students' independent thinking abilities (Kasneci et al., 2023; Sok & Heng, 2023).

Table 9
Reasons for not recommending ChatGPT for English learning

Category	Reasons
Lack of Efficacy	Not a proper tool for learning English
	No efficiency
Preference for Traditional Methods	More useful methods for learning English than using ChatGPT
	Using a dictionary and textbooks is better
Concerns about Overreliance	Over-dependence
Cognitive Impact	Causing poor thinking skills
Limited Applicability	Only for IT, Only for secondary use
Preference for Self-learning	Self-study is better
Suitability for Group Users	Doesn't work for young learners,
	Not for the professionals and ones who want to live abroad

These reasons for not recommending ChatGPT for English learning underscore diverse perceptions regarding its effectiveness, suitability for different groups of learners, and potential cognitive impacts. These findings align with concerns highlighted in previous studies regarding its limitations and potential drawbacks in educational contexts (Kasneci et al., 2023; Shoufan, 2023; Sok & Heng, 2023).

DISCUSSION

Perceptions of ChatGPT's impact on English learning

The first research question sheds light on the effectiveness of ChatGPT based on participants' perception and experience. Participants generally expressed ease in using ChatGPT for English learning, along with moderate engagement and a fair preference for its use in future learning endeavors. However, there were notable differences in perception based on gender and nationality, suggesting the need for tailored approaches to optimize ChatGPT's effectiveness.

In terms of gender, female participants demonstrated a stronger tendency to perceive ChatGPT in enhancing their English learning experience in terms of engagement, endorsement, and trust compared to male participants. These findings highlight gender-based variations in perceptions, which indicate a more positive experience for female participants using ChatGPT as a language learning assistant. Further investigation into specific features or aspects of ChatGPT that resonate differently with male and female learners could provide additional insights for enhancing the tool's effectiveness for both genders (Johnson & Smith, 2020; Lee et al., 2019). Regarding nationality, Korean participants revealed higher perceived benefits in improving their English listening skills compared to foreign participants. However, responses from the open-ended questions lack elaboration on how ChatGPT improved participants' English listening skills. Presumably, this could be attributed to participants considering the tool as an interlocutor and a conversation agent that can generate more than 50 languages, including English and Korean (Firat, 2023; Xiao & Zhi, 2023). This finding suggests the different preferences or experiences of students regarding the use of ChatGPT for language learning. Thus, tailoring ChatGPT's role and affordances to better meet the needs of diverse user groups could enhance its effectiveness and user satisfaction (Choi et al., 2023).

The study identified areas for improvement in optimizing ChatGPT's effectiveness for language learning, particularly in supporting writing and reading skills, as well as strategies to boost trust in its accuracy and reliability. These insights underscore the importance of continuous refinement and adaptation of AI-driven language learning tools to better meet the evolving needs and preferences of users (Wang & Li, 2018). The study also found that participants' self-rated English proficiency levels did not significantly impact their perceptions of ChatGPT's effectiveness. However, there was a significant difference in participants' perspectives regarding ChatGPT's assistance in understanding English grammar based on the number of years they had been learning English. This finding suggests that the longer participants are engaged in English language learning, the more they perceive ChatGPT as helpful in understanding English grammar. Therefore, it is necessary to align ChatGPT's educational purposes to cater to users' varying levels of language proficiency could further enhance its effectiveness and usability (Park et al., 2020).

Hence, the study provides valuable insights into the perceptions of Korean and foreign undergraduate students regarding the use of ChatGPT for English learning. By addressing gender-based and nationality-based variations in perceptions, as well as specific areas for improvement identified in the study, educators and developers can optimize ChatGPT's effectiveness as a language learning tool and enhance user satisfaction and engagement.

Advantages & disadvantages of ChatGPT for English learning

In response to the second research question, this section presents the findings of a study on the impact of ChatGPT on English language learning, which categorizes participant feedback into benefits and drawbacks. Three main categories emerged regarding how ChatGPT aids English learning: *Supportive use, Interlocutor,* and *Usability*. Participants noted improvement in English skills through features like proofreading, translation, and instructional coaching, which indicates ChatGPT's effectiveness in vocabulary enhancement and error checking (Kung et al., 2023). Additionally, they valued ChatGPT as an interlocutor for authentic English communication and highlighted its usability and accessibility (Firat, 2023; Xiao & Zhi, 2023).

Advantages of ChatGPT for English learning were reported in two main areas: *Language skills development* and *Information search system*. Participants commended ChatGPT for facilitating vocabulary acquisition, grammar correction, writing assistance, and speaking skills development (Kohnke et al., 2023; Shoufan, 2023). They also appreciated its efficiency in information retrieval and translation tasks (Medina & Calvo-Ferrer, 2022). However, drawbacks were identified in three categories: *Challenges in information retrieval, Negative effects on cognitive skills,* and *Limited language skills development*. Participants expressed concerns about misinformation, communication misunderstandings, over-reliance leading to decreased critical thinking, and limited support for listening and speaking skills (Sok & Heng, 2023).

Recommendations for ChatGPT use emphasize its effectiveness in grammar and writing skills development, error correction, and personalized learning experiences. While participants valued its practical usage aspects, they highlighted concerns about over-dependence and its limited applicability for certain learner groups (Kasneci et al., 2023; Sok & Heng, 2023). Hence,

ChatGPT offers significant advantages for English learning, particularly in vocabulary enhancement, grammar correction, and writing assistance. However, careful consideration of its limitations, such as challenges in information retrieval and potential negative effects on cognitive skills, is necessary to optimize its contribution to language education.

CONCLUSION

This study focused on exploring the perceptions of Korean and foreign undergraduate students at a private university in South Korea using ChatGPT for English learning. It examined the experiences and perspectives of learners regarding the implementation of this advanced AI tool in language acquisition. The findings revealed that majority of participants recognized the advantages of ChatGPT, such as aiding vocabulary acquisition, facilitating language development skills, assisting in writing and reading, supporting speaking skills development, efficient information retrieval, and translation tasks. These findings resonated with previous studies, illustrating the adaptability and potential of ChatGPT as an AI-based tool for language learning.

However, the study also revealed concerns associated with the use of ChatGPT. Participants highlighted issues such as inconsistencies in accuracy of responses, challenges in accessing updated information, communication misunderstandings, and limitations in providing comprehensive language learning experiences. Over reliance on the tool was identified as a potential drawback, which could hinder critical thinking and lead to biases in favor of certain language skills over others. To address the identified limitations, future research could focus on refining ChatGPT's accuracy and updating information regularly to ensure relevance. Further investigations might explore ways to enhance ChatGPT's support for speaking, listening, and writing practices. Studies could examine strategies to minimize overreliance on the tool and promote a balanced approach to language skill development among learners using AI-based tools.

In terms of methodology, this study is limited by the small number of participants. While including international students can provide a basis for comparing the use of ChatGPT for language learning among Korean students, the number of international students is limited, and they are from diverse countries, including the Philippines and the USA, where English is spoken and students are highly proficient. Therefore, future research should involve more participants to thoroughly compare the differences in the effectiveness and usability of ChatGPT and other related generative AI technologies for language learning. Future studies could also use interviews and narratives to corroborate the findings and clarify the participants' experiences, particularly regarding how ChatGPT may develop language skills. From a broader perspective, research on ChatGPT and other generative AI technologies is evolving faster than ever. Therefore, future studies can explore the relevance of such tools in language instruction.

Nevertheless, this study contributes to the growing body of research on AI-based language learning tools, specifically using ChatGPT for English learning. Understanding learners' perspectives is crucial in refining AI tools like ChatGPT to better meet the diverse needs of language learners, thereby enhancing their language acquisition experiences. Thus, further

research and development efforts should aim to refine and improve AI tools like ChatGPT to create more comprehensive and effective language learning experiences for learners.

THE AUTHORS

Allan Jay Esteban holds a PhD in English Language and Literature from Kyung Hee University, South Korea. He currently serves as a faculty member and researcher at Central Luzon State University, Philippines. His research interests include language use, study abroad, language and culture, technology-enhanced language learning, and big data analysis.
allajayesteban@clsu.edu.ph

Ilee Park earned her PhD from the Department of British & American Language and Culture, Graduate School of Kyung Hee University, South Korea. She also holds a Master's degree in English Education. With a career in teaching English at secondary schools in South Korea since 2004, her primary areas of interest include the application of AI in education and curriculum development.
ileepark12@gmail.com

Nguyen Thi Nga earned her MA from the Department of British & American Language and Culture, Graduate School of Kyung Hee University, South Korea. Prior to this, she received her Bachelor's degree in English Studies from Hanoi University in 2020. Her main research interests include self-directed learning, multilingualism, and task-based language teaching.
nga.nguyenthi@khu.ac.kr

Sanja Perunovic earned her MA from the Department of British & American Language and Culture at Graduate School of Kyung Hee University in South Korea. Prior to this, she received her Bachelor's degree in 2021 from the Department of English Language, Literature and Culture at Belgrade University in Serbia. Her main research interests are culture teaching in ELT and culture representation in ELT textbooks.
sanja@khu.ac.kr

Si Eun Park received his MA at the Department of British & American Language and Culture, Graduate School of Kyung Hee University, South Korea. He also holds a Bachelor's degree in English Education from Incheon National University. His main research interests include critical literacy and communicative language learning.
parkshieun@khu.ac.kr

Shehzadi is a PhD student at the Department of British &American Language and Culture, Graduate School of Kyung Hee University, South Korea. She received her master's degree in International Education from Namseoul University Cheonan Korea in 2021. Her main research interests involve adaptive AI-based language teaching and learning, and multimodal systems.
shehzadi@khu.ac.kr

Jong-il Yi is currently working at Seoul National University of Science and Technology, South Korea. She received her EdD from Leicester University in the UK, where she was also involved in Maritime English development. Her research interests include testing validity in English language, test development, and English education for out-of-school youths.
hiblue827@naver.com

REFERENCES

Alawida, M., Mejri, S., Mehmood, A., Chikhaoui, B., & Isaac Abiodun, O. (2023). A comprehensive study of ChatGPT: Advancements, limitations, and ethical considerations in natural language processing and cybersecurity. *Information, 14*(8), Article 462. https://doi.org/10.3390/info14080462

Alyoussef, I. Y., & Omer, O. M. A. (2023). Investigating student satisfaction and adoption of technology-enhanced learning to improve educational outcomes in Saudi higher education. *Sustainability, 15*(19), Article 14617. https://doi.org/10.3390/su151914617

Belda-Medina, J., & Calvo-Ferrer, J. R. (2022). Using chatbots as AI conversational partners in language learning. *Applied Sciences, 12*(17), Article 8427. https://doi.org/10.3390/app12178427

Bin-Hady, W. R. A., Al-Kadi, A., Hazaea, A., & Ali, J. K. M. (2023). Exploring the dimensions of ChatGPT in English language learning: A global perspective. *Library Hi Tech*. Advance online publication. https://doi.org/10.1108/lht-05-2023-0200

Bonsu, E. M., & Baffour-Koduah, D. (2023). From the consumers' side: Determining students' perception and intention to use ChatGPT in Ghanaian higher education. *Journal of Education, Society & Multiculturalism, 4*(1), 1–29. http://doi.org/10.2139/ssrn.4387107

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brown, H. D. (2014). *Principles of language learning and teaching*. Pearson Education.

Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access, 8*, 75264–75278. https://doi.org/10.1109/access.2020.2988510

Chen, N.-S., Cheng, I.-L., & Chew, S. W. (2016). Evolution is not enough: Revolutionizing current learning environments to smart learning environments. *International Journal of Artificial Intelligence in Education, 26*, 561–581. https://doi.org/10.1007/s40593-016-0108-x

Choi, S., Jang, Y., & Kim, H. (2023). Influence of pedagogical beliefs and perceived trust on teachers' acceptance of educational artificial intelligence tools. *International Journal of Human–Computer Interaction, 39*(4), 910–922. https://doi.org/10.1080/10447318.2022.2049145

Chun, H., Lee, S. M., & Park, I. (2021). A systematic review of AI technology use in English education. *Multimedia-Assisted Language Learning, 24*(1), 87–103.

Correia, M., & Santos, R. (2017). Game-based learning: The use of Kahoot in teacher education. In M. J. Silva, C. Ponte, & J. M. Dodero (Eds.), *SIIE: 2017 International Symposium on Computers in Education: Lisbon (Polytechnic Institute of Lisbon, School of Education)* (pp. 1–4). IEEE. https://doi.org/10.1109/siie.2017.8259670

Esteban, A. J. (2024). Theories, principles, and game elements that support digital game-based language learning (DGBLL): A systematic review. *International Journal of Learning, Teaching and Educational Research, 23*(3), 1–22. https://doi.org/10.26803/ijlter.23.3.1

Esteban, A. J., Calang, K., & Pagador, P. M. E. (2024). A review of practices and digital technology integration in reading instruction and suggestions for the Philippines. *International Journal of Evaluation and Research in Education, 13*(6), 3663–3672. http://doi.org/10.11591/ijere.v13i6.29856

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs—principles and practices. *Health Services Research, 48*(6), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Firat, M. (2023). What ChatGPT means for universities: Perceptions of scholars and students. *Journal of Applied Learning and Teaching, 6*(1), 57–63. https://doi.org/10.37074/jalt.2023.6.1.22

González-Calatayud, V., Prendes-Espinosa, P., & Roig-Vila, R. (2021). Artificial intelligence for student assessment: A systematic review. *Applied Sciences, 11*(12), Article 5467. https://doi.org/10.3390/app11125467

Grájeda, A., Burgos, J., Córdova, P., & Sanjinés, A. (2024). Assessing student-perceived impact of using artificial intelligence tools: Construction of a synthetic index of application in higher education. *Cogent Education, 11*(1), Article 2287917. https://doi.org/10.1080/2331186x.2023.2287917

Han, J., & Geng, X. (2023). University students' approaches to online learning technologies: The roles of perceived support, affect/emotion and self-efficacy in technology-enhanced learning. *Computers & Education, 194,* Article 104695. https://doi.org/10.1016/j.compedu.2022.104695

Hsu, H. T., & Lin, C. C. (2022). Extending the technology acceptance model of college learners' mobile-assisted language learning by incorporating psychological constructs. *British Journal of Educational Technology, 53*(2), 286–306. https://doi.org/10.1111/bjet.13165

Hwang, Y. (2023). The emergence of generative AI and PROMPT literacy: Focusing on the use of ChatGPT and DALL-E for English education. *Journal of the Korea English Education Society, 22*(2), 263–288. https://doi.org/10.18649/jkees.2023.22.2.263

Jia, F., Sun, D., Ma, Q., & Looi, C. K. (2022). Developing an AI-based learning system for L2 learners' authentic and ubiquitous learning in English language. *Sustainability, 14*(23), Article 15527. https://doi.org/10.3390/su142315527

Joffe, H. (2011). Thematic analysis. In D. Harper & A. R. Thompson (Eds.), *Qualitative research methods in mental health and psychotherapy: A guide for students and practitioners* (pp. 209–223). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781119973249.ch15

Kasneci, E., Seßler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., . . . Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences, 103*, Article 102274. https://doi.org/10.1016/j.lindif.2023.102274

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

Kwangsawad, A., Nusawat, P., & Jattamart, A. (2024). Conceptual model of innovation decision process and hesitation to adopt augmented reality in tourism industry. *International Journal of Human–Computer Interaction*, 1-26. Advance online publication. https://doi.org/10.1080/10447318.2024.2434963

Lee, J. H., Kim, H., Shin, D. K., & Yang, H. (2019). A study on the conversational interaction with chatbot for foreign language learning. *Multimedia-Assisted Language Learning, 22*(1), 132–153.

Li, B., & Peng, M. (2022). Integration of an AI-based platform and flipped classroom instructional model. *Scientific Programming, 2022*(1), Article 2536382. https://doi.org/10.1155/2022/2536382

Lin, C.-C., Huang, A. Y. Q., & Lu, O. H. T. (2023). Artificial intelligence in intelligent tutoring systems toward sustainable education: A systematic review. *Smart Learning Environments, 10*(41), 1–22. https://doi.org/10.1186/s40561-023-00260-y

Lindemann, S. (2005). Who speaks "broken English"? US undergraduates' perceptions of non-native English. *International Journal of Applied Linguistics, 15*(2), 187–212. https://doi.org/10.1111/j.1473-4192.2005.00087.x

Liu, G., & Ma, C. (2024). Measuring EFL learners' use of ChatGPT in informal digital learning of English based on the technology acceptance model. *Innovation in Language Learning and Teaching, 18*(2), 125–138. https://doi.org/10.1080/17501229.2023.2240316

Murtaza, M., Ahmed, Y., Shamsi, J. A., Sherwani, F., & Usman, M. (2022). AI-based personalized e-learning systems: Issues, challenges, and solutions. *IEEE Access, 10*, 81323–81342. https://doi.org/10.1109/access.2022.3193938

Păvăloiu, I. (2017). Leap motion technology in learning. In E. Soare & C. Langa (Eds.), *Education facing contemporary world issue*s (pp. 1025–1031). Future Academy. https://doi.org/10.15405/epsbs.2017.05.02.126

Pedro, F., Subosa, M., Rivas, A., & Valverde, P. (2019). *Artificial intelligence in education: Challenges and opportunities for sustainable development*. UNESCO. https://www.gcedclearinghouse.org/sites/default/files/resources/190175eng.pdf

Ray, P. P. (2023). ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope. *Internet of Things and Cyber-Physical Systems, 3*, 121–154. https://doi.org/10.1016/j.iotcps.2023.04.003

Seo, S., & Kim, J. (2023). The effects of AI chatbot-based activities on elementary English learners' vocabulary abilities and affective domains. *Journal of the Korea English Education Society, 22*(1), 149–170.

Shadiev, R., & Yang, M. (2020). Review of studies on technology-enhanced language learning and teaching. *Sustainability, 12*(2), Article 524. https://doi.org/10.3390/su12020524

Shoufan, A. (2023). Exploring students' perceptions of ChatGPT: Thematic analysis and follow-up survey. *IEEE Access, 11*, 38805–38818. https://doi.org/10.1109/ACCESS.2023.3268224

Singh, H., Tayarani-Najaran, M. H., & Yaqoob, M. (2023). Exploring computer science students' perception of ChatGPT in higher education: A descriptive and correlation study. *Education Sciences, 13*(9), Article 924. https://doi.org/10.3390/educsci13090924

Sok, S., & Heng, K. (2023). ChatGPT for education and research: A review of benefits and risks. *Cambodian Journal of Educational Research, 3*(1), 110–121. https://doi.org/10.62037/cjer.2023.03.01.06

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*, Article 1260843. https://doi.org/10.3389/fpsyg.2023.1260843

VanLEHN, K. (2011). The relative effectiveness of human tutoring, intelligent tutoring systems, and other tutoring systems. *Educational Psychologist, 46*(4), 197–221. https://doi.org/10.1080/00461520.2011.611369

Williamson, B., & Eynon, R. (2020). Historical threads, missing links, and future directions in AI in education. *Learning, Media and Technology, 45*(3), 223–235. https://doi.org/10.1080/17439884.2020.1798995

Woo, J. H., & Choi, H. (2021). Systematic review for AI-based language learning tools. *Journal of Digital Contents Society, 22*(11), 1783–1792. https://doi.org/10.9728/dcs.2021.22.11.1783

Xianhua, L. (2019). Research on the effect of artificial intelligence technology on English learning efficiency. In Z. Hou (Ed.), *2019 12th International Conference on Intelligent Computation Technology and Automation (ICICTA)* (pp. 548–551). IEEE. https://doi.org/10.1109/icicta49267.2019.00123

Xiao, Y., & Zhi, Y. (2023). An exploratory study of EFL learners' use of ChatGPT for language learning tasks: Experience and perceptions. *Languages, 8*(3), Article 212. https://doi.org/10.3390/languages8030212

APPENDIX
Perception Survey on the Effectiveness and Use of ChatGPT

Part 1: Personal Information
Gender:
___ Male
___Female
Age:
Nationality:
Self-rated English Proficiency:
___ Beginner
___ Low Intermediate
___ Intermediate
___ Upper Intermediate
___ Advanced
Years of Learning English:
___ 1
___ 2
___ 3
___ 4
___ more than 5 years

Part 2: Likert Scale
Strong Agree (SA), Agree (A), Neutral (N), Disagree (D), Strongly Disagree (SD)

Statements	SA	A	N	D	SD
1. I am fully comfortable with using ChatGPT in English learning.					
2. I feel it is convenient to learn English with the help of ChatGPT.					
3. Using ChatGPT makes my English learning experience more engaging.					
4. In the future, I would prefer ChatGPT as my choice for English learning.					
5. I recommend ChatGPT to other students for English learning.					
6. ChatGPT helps me to better understand English vocabulary.					
7. ChatGPT helps me to better understand English grammar.					
8. ChatGPT helps me to improve my English writing skills.					
9. ChatGPT helps me to improve my English speaking.					
10. ChatGPT helps me to improve my English listening skills.					
11. ChatGPT helps me to improve my English reading skills.					
12. I trust ChatGPT as a language learning assistant.					

Part 3: Open Ended Questions
1. Do you think ChatGPT has helped you improve your English skills? If so, in what ways?
2. What are the advantages in terms of English learning while using ChatGPT?
3. What are the disadvantages in terms of English learning while using ChatGPT?
4. Would you recommend ChatGPT to other students for English learning? Why or why not?