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Another World with Artificial Intelligence in Speaking Classes: To Delve into the Influences on Willingness to Communicate, Personal Best Goals, and Academic Enjoyment

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Abstract

As EFL teachers have started to implement AI technology in foreign language learning, this research tried to inspect the influences of artificial intelligence (AI) on speaking skills, willingness to communicate (WTC), personal best goals (PBs), and academic enjoyment (AE) of Saudi Arabian EFL learners. Seventy-three participants were included in this study to achieve this purpose; 36 participants were in the control group (CG), and 37 students were in the experimental group (EG). The level of participants in speaking skills, WTC, PBs, and AE were determined before the treatment using four pretests. Then, the EG was taught five Touch Stone Book 2 units by applying AI- ChatGPT. The same units were trained to the CG without using any AI tools. After teaching all units, both groups' speaking skill levels, WTC, PBs, and AE, were measured by administering four posttests. Comparing the scores of the pretests and posttests, the results indicated that the EG outperformed the CG in the four posttests. This betterment can be ascribed to AI-ChatGPT, which was used to teach the EG. The implications and conclusions of the research were explained at the end.

Key Terms: Academic Enjoyment, Artificial Intelligence, Personal Best Goals, Speaking Classes, Willingness to Communicate

Introduction

Building intelligent computers that can carry out activities that typically need human intellect is the primary goal of AI, a vast field within computer science. Furthermore, according to Almelhes (2023), AI is the process by which a machine—specifically, a computer system—simulates human intellect. Rong et al. (2020) described AI as machines with cognitive functions generally associated with human minds, notably learning and problem-solving. Researchers have emphasized that AI is not based on a single technology but on various technologies, techniques, and strategies, such as data mining, machine learning, neural networking, and natural language processing. Every day, more and more firms worldwide rush to highlight how AI is used in their services and products. Most of the time, a single component of the technology, such as machine learning, is what these corporations regard as AI (Zeba et al., 2021). Machine learning algorithms are written and trained using specialized hardware and software, which is the essence of AI.

Furthermore, while programming languages like Python, R, and Java are prominent in AI, AI technology is not synonymous with any of them (Luckin et al., 2016). The use of AI in education is a hotly debated issue right now. For the past 30 years, educators have been unsure whether to use AI in the classroom and how it would affect teaching and learning (Zawacki-Richter et al., 2019). AI and adaptive learning technologies are significant developments in educational technology, according to the 2018 Horizon Report (Educause, 2018). To forecast a future state, the artificially intelligent system must first process a vast amount of labeled training data, look for patterns and correlations, and use those patterns (Myagila & Kilavo, 2021). Thus, by analyzing thousands of samples, image recognition programs learn how to recognize and describe things in photos.

Moreover, given text chat patterns, chatbots may be trained to have genuine interactions with humans. Since it can be utilized anywhere and anytime, many language learners and instructors use chatbots, an example of AI in action. Additionally, learners who use chatbots instead of human instructors feel more comfortable learning languages (Haristiani, 2019).

Due to highly creative technology, L2 language learners now have plenty of opportunity to practice and develop their speaking abilities through meaningful interactions (Bower & Kawaguchi, 2011). Speaking is a critical component of learning and teaching foreign languages, according to Huy et al. (2024). Without speaking ability, students would remain mute. Speaking in a foreign language allows students to communicate their thoughts verbally. He also suggests that students must practice speaking in everyday situations to become proficient speakers. As a result, the instructor ought to provide students with additional opportunities for speaking practice, such as exercises or examples that immerse them in authentic communication situations. According to Gillis (2013), speaking well offers the speaker a number of significant benefits, including the following: (1) the capacity to lead, inform, and convince; (2) the capacity to stand out from the crowd; (3) the capacity to gain indirectly; and (4) the capacity to further one's career.

Additionally, he highlights how speaking effectively may improve one's personal life and is crucial for professional success. Speaking is the most challenging skill for many EFL learners, requiring both language and cultural proficiency. According to Shumin (1997), mastering the syntax and vocabulary of a foreign language is not enough to become fluent in it. Students should engage with one another to gain the skill. However, their limited real-world language use makes it challenging for EFL learners to speak suitable English in the classroom. Speaking issues might arise from the instructor, the curriculum, the resources, or the students themselves, according to Thornbury and Slade (2006). According to Shumin (2002), speaking English is the hardest thing for learners to do. EFL students, in particular, frequently stutter when speaking in English. This results from students not being exposed to real-world contexts where they may communicate and

express themselves in English. Additionally, students are not exposed to the cultures of English speakers who are native speakers.

AI has made a profound impact on communication. MacIntyre et al. (1998) introduced the concept of WTC in the research on foreign language acquisition. "A readiness to enter the discourse at a particular time with a specific person or persons, using an L2" is how they described this idea (p. 547). WTC was further described as "a stable predisposition toward communication when free to choose to do so" (p. 7) by MacIntyre and Charos (1996). According to Kruk (2019), WTC describes a learner's cognitive planning stage when they employ the target language in their communication. Since the intention to communicate can result in genuine communication behavior, which increases foreign language competence, MacIntyre and Vincze (2017) viewed WTC as the primary goal of language acquisition. According to Öz et al. (2015), WTC is a multifaceted construct that may explain, predict, and describe language learners' communicative behavior in a second language (L2). It includes emotional, social-psychological, linguistic, and communicative characteristics.

AI improves the efficacy of manufacturing PBGs as target goals that exceed or match an individual's previous best performance have been recommended to optimize students' academic capability (Martin, 2006). Given that PBGs-oriented students utilize their prior greatest performance—rather than that of others—as a baseline of their accomplishments, PBGs permit a stronger focus on self-paced advancement and may have the beneficial impact of decreasing the harmful effects of social comparisons. As will be seen in the following review, earlier studies (Martin & Liem, 2010) have shown the benefits of PBGs on essential learning outcomes in students' academic paths. When a student achieves and puts out performance and effort that surpasses or is on par with their prior best performance and effort, it is said that the student has completed a PBG (Martin, 2011). The PBG notion is supported and inspired by critical theoretical frameworks such as goal content, accomplishment goal (Elliot, 2006), and goal-setting (Locke & Latham, 2002) perspectives. From the standpoint of goal content, one of the primary task-based goals people pursue daily is meeting a challenging standard of achievement or improvement (Austin & Vancouver, 1996). This aligns with PBGs' emphasis on self-improvement and achieving particular, optimally challenging outcomes.

Using AI in language learning can affect learners' AE and lead to better learning outcomes. According to MacIntyre and Mercer (2014), who started a positive psychology movement, if TL learners love their learning process, their motivation and self-confidence rise, and their anxiety falls. Both feelings appear to be reliant on one another in some situations, with delight gradually rising and fear falling progressively, but it is more probable that they are independent and students are just experiencing both emotions simultaneously (Dewaele et al., 2018). When studying EFL, students may commonly feel AE, a pleasant, activating, activity-related emotion (Pekrun et al., 2023). According to Boliver and Capsada-Munsech (2021), AE is a term used to describe a favorable emotional experience that students have when learning a topic, such as English, and it

indicates how much they like it. Emotions have been shown to be domain-specific by researchers, suggesting that studies on accomplishment emotions ought to concentrate on a particular topic (like English or Mathematics).

Review of the Literature

With significant ramifications for teaching and learning techniques, AI's swift development has transformed several fields, including education (Chen et al., 2020). AI is a computer science field that allows robots to learn from experiences, mimic human intellect, and carry out activities that generally require human cognitive abilities. AI can revolutionize education by offering individualized learning experiences catered to each student's interests and preferences (Hwang et al., 2020; Namaziandost & Rezai, 2024). Researchers, educators, and policymakers worldwide have been paying close attention to AI's integration in education, from intelligent tutoring systems and language learning apps to adaptive learning platforms (Wei, 2023).

Aldosari (2020) defines AI as intelligent software for various jobs. For example, people may ask AI-powered tools for help with academic questions, and these technologies quickly respond with the necessary data. AI is used in educational situations when it can make intelligent judgments similar to those made by humans. Furthermore, AI is frequently used in language learning to improve learners' language proficiency and sub-proficiency (Xia et al., 2022a). On PCs and mobile devices, a plethora of AI-assisted language learning resources are available to support language learners in their language acquisition efforts. These resources provide helpful assistance in enhancing a variety of language learning abilities. For example, learners may use ChatGPT, an AI-assisted tool, in language learning environments to advance their language learning abilities and sub-abilities (Yan, 2023).

ChatGPT may offer the necessary feedback and comments on various language learning skills and sub-skills concerns to support language learners' overall language accomplishment. Grammar-checked phrases from ChatGPT can assist students in creating writing that is well-organized (Wei, 2023).In addition to understanding human questions, this AI-assisted language-learning technology can deliver the most accurate responses (Huang & Tan, 2023). Numerous research studies have been conducted to investigate the impact of AI on language learning aids and the linguistic proficiency of English language learners (Wei, 2023). For example, Zheng et al. (2021) conducted a meta-analysis of the effects of AI on learning perception and accomplishment. Analysis was done on 24 articles from 2001 to 2020 with 2,908 participants. The findings showed that AI has a greater impact on learning accomplishment than learning perception. This indicates that most research focused on AI's significant influence on learning outcomes rather than learner perceptions.

The impacts of AI-assisted language learning on the speech and interaction of English language learners were studied by Xu et al. in 2022. The results showed that the learners' language learning achievement was enhanced, and they were involved in

interactive language learning activities with the AI-assisted language learning tool that used a speech recognition feature. The effect of AI-assisted language learning on EFL learners' language learning engagement was examined by Ebadi and Amini (2022). Surveys on motivation, social presence, and human likeness were used to gather data, and videos of EFL students interacting with the AI tool were recorded. The results showed that the AI tool significantly affected the learners' motivation and involvement with their studies.

Parallel to this, Carpio Cañada et al. (2015) investigated how language learners' motivation and learning outcomes were affected by an AI-powered method of language acquisition. The findings suggested that the AI-assisted technique influenced the learners' motivation for language acquisition. Better learning outcomes also resulted from the learners' motivation in language learning activities. Similarly, Ali et al. (2023) investigated the effect of ChatGPT, an AI tool, on the motivation of teachers and English language learners. The outcomes showed that while the AI-assisted language learning tool had little effect on the learners' speaking or listening abilities, it significantly improved their writing and reading capabilities.

Schmidt-Fajlik (2023) conducted a comparative analysis of ChatGPT, Grammarly, and ProWritingAid programs regarding their ability to verify, comprehend, and improve the English grammar of English language learners. The results showed that ChatGPT was superior to the other AI technologies in identifying and enhancing the English grammar of EFL learners. The impact of an AI-assisted language learning tool on EFL learners' enjoyment of reading was also investigated by Lee et al. (2023). While one group of EFL students participated in traditional reading comprehension exercises, the other group was given access to an AI tool that generated reading subjects based on the students' preferences. The results showed that the AI-powered language learning tool significantly enhanced the learners' enjoyment of reading.

In one study, Lin (2023) examined how chatbots affected university students' language learning results in a self-directed learning setting. According to their findings, pupils' speaking and writing abilities were much enhanced by the use of chatbots since the interactive aspect of the technology allowed for practice and customized feedback. Petrović and Jovanović (2021) conducted another pertinent study that concentrated on the advantages of chatbots for vocabulary development. The researchers discovered that learners who interacted with chatbots used and retained more vocabulary, underscoring the potential of this technology to facilitate vocabulary growth. Additionally, Muñoz et al. (2023) examined how chatbots may improve students' motivation and engagement. Their research showed that students were motivated to actively participate in language learning activities because chatbots' dynamic and interactive features created a good learning environment.

AI-based instruction effectively affects L2 speaking skills. Speaking clearly is an essential talent that people need to express their ideas and views, improve communication, and participate in various activities (Shalaby & Badr, 2024). According

to Cameron (2001), speaking is the act of utilizing words to communicate ideas to others. To gauge a language learner's overall achievement, speaking proficiency evaluation is crucial, as Richards (2008) emphasized. Similarly, Hasibuan and Ansyari (2007) noted that a person's capacity to talk is a measure of their level of linguistic competency. Speaking fluency is especially crucial when learning EFL since it allows students to engage in social and academic settings and express themselves with confidence. However, even with its significance, EFL students frequently struggle to become proficient speakers (Normawati et al., 2023).

Speaking, for instance, can assist language learners in becoming more accurate and fluent in the language (Geva, 2006). It could also facilitate learning new grammatical rules and vocabulary (Lika, 2017). Speaking can also assist students in developing their ability to arrange and structure their ideas (Göktürk et al., 2020). Lastly, speaking allows students to get feedback on their concepts and language usage (Geva, 2006). They can enhance their writing skills with the aid of this criticism. Geva (2006) found that pupils taught in writing and speaking progressed far more than those only trained in one skill. This demonstrates how attending speaking lessons may improve your writing ability (Shalaby & Badr, 2024).

Speaking is essential to communicating in a language as it enables people to express themselves clearly (Larsen-Freeman, 2013). Speaking in English as a foreign language (EFL) creates unique difficulties because of the intricate interactions between pronunciation, grammar, vocabulary, fluency, and intonation (Palmer, 2018). Because of its intricacy, students frequently struggle to clearly articulate themselves in English (Wongsa & Son, 2020). The impact of learners' native languages is one of the main variables causing these difficulties (Lemhöfer et al., 2010).

AI in communication impacts language by increasing communication speed and willingness. WTC in English in a classroom context is essential for effectively learning EFL (Chaisiri, 2023). It is described as being prepared to converse with someone or people at a specified moment (MacIntyre et al., 1998). The degree to which students want to start conversations in the target language is how L2 WTC is defined in L2 education (Liu, 2021). Two primary forms of L2 WTC were proposed by MacIntyre, Baker, Clément, and Conrod (2001): within and outside the classroom. According to Lee and Lu (2021), multilingual populations offer more possibilities for real-world communication, which is why learners' WTC outside of the classroom is more prevalent in multilingual nations where English is the second language. Therefore, the classroom may be considered a typical setting for English communication in EFL situations.

Skehan (1989), who asserted that language acquisition requires conversation, demonstrated how effective WTC may be for language learners. Thus, WTC has been suggested as the ultimate objective of second language (L2) instruction (MacIntyre et al., 1998). Additionally, MacIntyre et al. (1998) contend that a program is ineffective if it cannot generate learners eager to utilize the language. Liu (2021) highlighted the importance of instructors in fostering students' WTC. They place particular emphasis on

"the teacher's interpersonal conduct. Enhancing L2 WTC in the classroom requires teacher immediacy, characterized by verbal and nonverbal activities that might shorten the psychological and/or physical distance between instructors and pupils. Violanti et al. (2018) claim that instructor immediacy can increase expectations for second language learners, significantly increasing their motivation to participate and ultimately improving their academic achievement. L2 instructors can use the tactics recommended by recent studies to encourage students' WTC in the classroom. These methods, which included grouping tactics (Anwar, 2016), warm-up strategies (Vongsila & Reinders, 2016), topic choice strategies (Yashima et al., 2016), strategies for teacher correction (Peifer et al., 2020), and techniques for creating a positive classroom environment (Ayedoun et al., 2019), were primarily categorized.

These tactics were mainly developed with consideration for the variables that may impact L2 students' WTC. Instructors can use grouping to help their students become more open to communicating with two or more people who are related to them socially (Anwar, 2016). Group members can engage, influence, communicate, and work as a team (Forsyth, 2006). Peer engagement and group work can promote the growth of second-language learners (Devos, 2016). Groups of three to four students may give pupils enough opportunity to speak, according to Cao and Philp (2006). According to Kang (2005), instructors can assess whether or not their group work interlocutors are suitable to support their students' WTC. In agreement with Kang (2005), Riasati (2012) stated that group activities (such as presentations and discussions) ought to be a factor in determining how well students perform in group projects.

AI can simplify achieving the PBs in the EFL context. Setting objectives for the future is a critical factor in motivating students to succeed, which may distinguish certain students from others in terms of their achievement. Whether or not the students think they can alter their existing circumstances determines the sort of objectives they set for themselves. Actually, it appears that the perceptions of intelligence held by successful and unsuccessful learners are different (Ramshe et al., 2019). While people with an entity view of intelligence are less likely to alter their psycho-behavioral state, those with an incremental view of intelligence think they can influence their academic and non-academic outcomes through behavioral, emotional, and cognitive changes (Dweck, 2012).

Some students can improve their performance concerning their prior position even if they might not be able to do as well as their contemporaries. PBs, or "personalized goals or standards of excellence that match or exceed one's previous best in an academic context," are goals that align with an incremental perspective of intelligence (Martin & Liem, 2010). They are demanding, precise, and self-referentially competitive goals. These objectives could include stepping up one's efforts or doing better on the present schoolwork than on earlier assignments. PBs originated from growth techniques formerly known as value-added models and the incremental perspective of human intelligence (Ramshe et al., 2019).

The amount that a product's value increases throughout each step of manufacturing is referred to as value-added, a phrase adopted from economics (Koedel et al., 2015). However, in education, the word describes how pupils' performance has improved throughout a given academic year compared to the prior academic year and how instructors might support their efforts. Academic PBs have been found to predict students' levels of involvement and accomplishment (Ramshe et al., 2019). Martin (2012) claims that PBGs establish the intended goal and assist students in exceeding their past performance levels. Furthermore, they help students focus on the tasks necessary to achieve the intended goals.

Furthermore, they provide the required drive for pursuing desirable goals because the rivalry from pursuing such goals is with oneself. Furthermore, PBGs create a discrepancy between your current circumstances and your desired outcomes, inspiring you to resolve. Lastly, because PBGs are inherently difficult, you are under the required pressure to succeed (Ramshe et al., 2019).

Growth approaches to human development are associated with a number of theories, including the Self-concordance Model, the Goal-setting Theory, the Achievement Goal Theory, and the Self-determination Theory. According to the achievement goal theory (Kaplan & Maehr, 2007), accomplishment behaviors are driven by mastery and performance objectives. Developing your abilities, demonstrating your proficiency to others, and striving to outperform them are all aspects of mastery objectives. It has been suggested that performance and mastery objectives are combined to create development goals (Martin & Liem, 2010). Because they are self-referenced, these objectives are mastery-oriented. They also have a performance element as one is up against their own past experiences. Another theory associated with the development method is the goal-setting theory (Lock & Latham, 2002). According to this approach, growth objectives encourage students to aim for critical assignments and activities for their academic progress. The self-competition energizes the learners, and they are driven to close the gap between the desired and present situations since there is discord between them.

Furthermore, autonomous motivation—an integrated and intrinsic kind of motivation—must result from satisfying three psychological demands: autonomy, relatedness, and competence, according to Self-determination Theory (Deci & Ryan, 2008). According to research, growth objectives and autonomous motivation function similarly. Growth objectives and self-determination theory have one thing in common: they are both chosen on a self-based basis and decided by the learners. The Self-Concordance Model is another paradigm that addresses the self-referenced character of growth objectives (Sheldon & Elliot, 1999). According to this concept, objectives should be balanced with one's values and interests. Self-concordant goals are in line with who you are. Externally defined goals, on the other hand, conflict with one's beliefs and areas of interest and don't offer adequate incentives. Martin (2006) put out a multidimensional model to look at the critical elements of PBs in a learning environment. His model

substantially predicted class participation, perseverance, the pleasure of schooling, and goals for further education. It also suited the data relatively well. The central pillars of PBs, according to the suggested model, were self-improvement, self-referenced, difficult, and defined goals.

Using AI in language learning can affect learners' AE and lead to better learning outcomes. Emotions are essential and changeable in language instructors' professional everyday lives in various circumstances, according to Gkonou et al. (2020). Additionally, Moskowitz and Dewaele, 2021 discovered that instructors' emotions greatly impacted students and classroom procedures. Numerous researches have focused on teachers' emotions in reaction to these findings (Ramshe et al., 2018). The primary emotions that have been the subject of this research include instructors' happiness, emotionality, self-control, and general well-being. But Mierzwa (2019) proposed a new emotional factor: foreign language teaching enjoyment (FLTE), which describes teachers' happiness and joy in instructing an FL through fostering a supportive learning environment, feeling socially connected to their peers, and taking pleasure in the FL themselves (Xiao et al., 2022).

According to Piasecka (2016), FLTE plays a critical role because of its high correlation with students' FLE, learning progress, and the positive classroom environment. Subsequent research has concentrated on forecasting FLTE and utilizing FLTE to forecast the emotions of other educators. For instance, it was shown that the best indicators of FLTE are teachers' resilience and general well-being (Marei, 2023). This is significant because FLTE is considered a good predictor of teachers' job engagement, which is crucial as it can impact teachers' productivity (Xiao et al., 2022). (Marei, 2023). To the best of my knowledge, no study has examined how FLTE affects students' emotions because of the novelty of this emotional element. This is crucial since Dewaele et al. (2018) discovered that instructor characteristics significantly impact and may predict students' FLE levels.

Research Questions

1. Does using AI (ChatGPT) significantly affect EFL learners' speaking skills?
2. Does using AI (ChatGPT) significantly affect EFL learners' WTC?
3. Does using AI (ChatGPT) significantly affect EFL learners' PBGs?
4. Does using AI (ChatGPT) significantly affect EFL learners' AE?

Research Design, Participants, Instrumentations, and Treatment

This study used a convenience sampling technique to choose individuals for a quasi-experimental design consisting of a pretest, intervention, and posttest. This study contained two groups, EG and CG, and parametric statistics were utilized to examine the pre- and posttest data.

Seventy-three EFL students from Prince Sattam Bin Abdulaziz University, Al-Kharj, Saudi Arabia, participated in this study. Out of a group of 106 students, they were

selected using the convenience sample technique. Before starting our research, the institution's administration evaluated the general English proficiency of its students. The participants' ages ranged from 18 to 26 years old. Since we could reach male volunteers more readily than female ones, we only used them in this study. The EG and the CG were the two randomly selected groups from among the subjects.

The other measure used to assess students' preparedness to use English both within and outside of the classroom was the 17-item WTC Questionnaire, which was modified from Sick and Nagasaka's (2000) WTC scale. Among several WTC measures, Sick and Nagasaka (2000) scale was chosen for this survey due to its broad research use. The authors were, therefore, certain of the questionnaire's validity. A four-point Likert scale was used to score the responses: 1 meant would rather avoid; 2 meant somewhat willing; 3 meant willing; and four meant highly willing. Assist the foreigner in front of you who is struggling to communicate, for example, with the grocery store clerk. The Cronbach formula indicated that the WTC scale's dependability was = 0.91.

The Personal Best Goal Scale (PBGS) developed by Martin (2006) was utilized to examine the participants' PBG. The sixteen items on this exam each had a five-point Likert-type response. The following four PBGS dimensions were identified: self-improvement goals (four items, e.g., I try to get a better result than I've gotten before), specific goals (four items; e.g., I get a clear idea about particular things I'm trying to achieve in my schoolwork), challenging goals (four items; e.g., I like to work towards challenging goals in my schoolwork), and competitively self-referenced goals (four items). Based on the Cronbach's alpha report, the reliability of this scale was judged to be satisfactory (r=.83).

The other tool used to collect the necessary data was a speaking pretest created by the researcher. This instrument includes two subjects extracted from the participants' textbooks (Touch Stone Book 2). The participants were asked to talk about the selected subjects for three or four minutes; their speech was recorded on video for further analysis. The reliability of this pretest was ultimately assessed using Cronbach's alpha, which yielded a result of (r=.80).

The other instrument was the AE scale, which had 21 items and subscales covering learning, peer and teacher support, and peer support. According to Dewaele and MacIntyre (2014), FLE was classified into two groups: FLE social and FLE private. The learning subscale's items 1 through 13 were used to evaluate FLE private; the peer support subscale's items 14 through 21 and the teacher support subscale's items 15, 16, and 17 were used to assess FLE social. According to Dewaele et al. (2019), these items have passed several tests and have Cronbach Alpha values ranging from 0.86 to 0.92. Every test was also employed as study posttests following the course of therapy.

The EG was taught five Touch Stone Book 2 units by applying AI- ChatGPT. The same units were trained to the CG without using any AI tools. In each session, one lesson was instructed to both groups using two different methods. After teaching all units, both groups' speaking skill levels, WTC, PBs, and AE, were measured by administering four

posttests. Finally, the data were analyzed using ANCOVA and independent samples t-test.

Results

After determining the normal distribution of the scores, we analyzed the data using parametric statistics.

Table 1
Pretests Descriptive Results

	Groups	N	Mean	Std. Deviation	Std. Error Mean
WTC	CG	36	26.63	2.23	.37
	EG	37	27.81	5.24	.86
PBG	CG	36	41.02	5.95	.99
	EG	37	42.32	3.30	.54
Speaking	CG	36	13.36	2.28	.38
	EG	37	12.81	1.86	.30
AE	CG	36	42.77	5.72	.95
	EG	37	43.83	3.05	.50

The table above displays the two groups' mean scores and standard deviations. The two groups' mean scores are almost comparable in every dependent variable pretest. Before receiving the intervention, the two groups speaking, AE, WTC, and PBG performances were all the same.

Table 2
Pretests Inferential Results

	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
WTC	14.40	.00	-1.23	71	.22	-1.17	.94
			-1.24	48.88	.21	-1.17	.93
PBGS	16.09	.00	-1.15	71	.25	-1.29	1.12
			-1.14	54.30	.25	-1.29	1.13
Speaking	1.07	.30	1.12	71	.26	.55	.48
			1.12	67.58	.26	.55	.48
AE	10.07	.00	-.99	71	.32	-1.06	1.07

	-.98 53.17	.33	-1.06	1.07

Table 2's inferential statistics indicate no notable distinctions between the CG and EG pretest results. All of the sig values in the table are above 0.05, which suggests that before the training, the participants in the two groups were at the same level of speaking, AE, WTC, and PBG.

Table 3
Descriptive Results of ANCOVA For AE Posttest

Groups	Mean	Std. Deviation	N
CG	47.69	5.69	36
EG	55.94	10.10	37
Total	51.87	9.16	73

Table 3 shows the average scores and standard deviations for the CG and EG on the AE posttest. The CG and EG have mean scores of 47.69 and 55.94, respectively. We may infer that on the AE posttest, the EG performed better than the CG.

Table 4
Inferential Results of ANCOVA For AE Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1370.07[a]	2	685.03	10.23	.00
Intercept	1196.82	1	1196.82	17.88	.00
Pretest	127.71	1	127.71	1.90	.17
Groups	1134.77	1	1134.77	16.95	.00
Error	4683.82	70	66.91		
Total	202511.00	73			
Corrected Total	6053.89	72			

Significant differences existed between the AE posttests of the CG and EG, as demonstrated by the inferential statistics in Table 4 above. The EG outperformed the CG on the AE posttest, according to the sig value of less than 0.05.

Table 5
Descriptive Results of ANCOVA For Speaking Posttest

Groups	Mean	Std. Deviation	N
CG	15.00	1.80	36
EG	16.89	2.11	37

Total	15.95	2.17	73

On the speaking posttest, the CG's mean score was 15.00, whereas the EG's was 16.89. It is evident that they have distinct mean scores—the EG has a greater mean score than the CG. The benefits of AI-based training are responsible for this improvement.

Table 6
Inferential Results of ANCOVA For Speaking Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	77.09[a]	2	38.54	10.22	.00
Intercept	314.52	1	314.52	83.46	.00
Pretests	11.78	1	11.78	3.12	.08
Groups	71.66	1	71.66	19.01	.00
Error	263.78	70	3.76		
Total	18933.00	73			
Corrected Total	340.87	72			

Given that the sig value is less than 0.05., the inferential statistics indicate that the EG outperformed the CG on the speaking posttest. The EG's receipt of AI-based training may cause a significant difference between the two groups' posttest results.

Table 7
Descriptive Results of ANCOVA For PBG Posttest

Groups	Mean	Std. Deviation	N
CG	47.25	5.62	36
EG	52.54	10.20	37
Total	49.93	8.63	73

Table 7 indicates a significant difference between the mean score of the EG and the CG on the PBG posttest. The following table was subjected to an ANCOVA test to see whether there was a significant difference between the two groups' PBG posttest results.

Table 8: Inferential Results of ANCOVA For PBG Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1194.97[a]	2	597.48	10.02	.00
Intercept	5489.73	1	5489.73	92.11	.00
Pretests	684.25	1	684.25	11.48	.00
Groups	672.86	1	672.86	11.29	.00

Error	4171.68	70	59.59
Total	187367.00	73	
Corrected Total	5366.65	72	

Table 8's inferential statistics verify a significant difference between the CG and EG's PBG posttests. The PBG posttest results indicate that the EG outperformed the CG, as noted in the sig value being less than 0.05.

Table 9

Descriptive Results of ANCOVA For WTC Posttest

Groups	Mean	Std. Deviation	N
CG	33.05	8.39	36
EG	41.00	12.50	37
Total	37.08	11.33	73

Table 9 displays the average results for both groups on the WTC posttest. Table 9 shows that the average score for the EG is 41.00, while the average score for the CG is 33.05. It seems that the EG outperformed the EG in the WTC posttest.

Table 10

Inferential Results of ANCOVA For WTC Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2989.11[a]	2	1494.55	16.71	.00
Intercept	12.51	1	12.51	.14	.70
Pretests	1837.49	1	1837.49	20.55	.00
Groups	748.50	1	748.50	8.37	.00
Error	6258.39	70	89.40		
Total	109629.00	73			
Corrected Total	9247.50	72			

With Sig being.00, less than 0.05, Table 10 shows a significant difference in the WTC posttest outcomes between the two groups. In fact, the EG outperformed the CG in the WTC posttest.

Discussion and Conclusion

The results showed that the EG outdid the CG in the four posttests. This betterment is attributed to AI-based instruction. The outcomes are consistent with Lin's (2023) research, which showed that using chatbots enhanced students' speaking and writing abilities. Furthermore, the outcomes corroborate the findings of Petrović and Jovanović (2021), who discovered that learners who interacted with chatbots had higher vocabulary usage and retention rates, underscoring the potential of this technology to facilitate vocabulary growth. Moreover, our results align with Muñoz et al. (2023), who discovered that chatbots' dynamic and interactive features created a favorable learning

atmosphere and encouraged students to participate in language learning activities actively.

El Shazly (2021), who examined the effects of AI-powered language learning aids on the speaking abilities of Egyptian EFL learners, also supports the current study's findings. He disclosed that the learners' speaking abilities and interactive speaking activities improved using AI-assisted language learning tools. Similarly, Junaidi (2020), who examined the effects of AI-assisted language learning tools on EFL learners' speaking abilities, concurs with the findings. His findings showed that both groups' speaking abilities had improved, but the experimental learners' speaking abilities were superior to those of the control group, confirming the crucial roles that AI-powered language learning tools play in helping EFL learners improve their speaking abilities.

The individualized aspect of ChatGPT, which has great potential for customizing language learning experiences to meet the demands of specific learners, justifies the achieved findings (Kasneci et al., 2023). ChatGPT can accommodate learners' individual skill levels, learning objectives, and areas of interest through customized replies and exercises. This tailored strategy optimizes learner engagement and effectiveness by matching the course material to each student's needs. Tsai (2023) thought that, as a result, students are more likely to maintain their motivation and take an active role in their language acquisition.

Another significant benefit is the round-the-clock support that comes with incorporating ChatGPT into self-directed learning. Because they may use the chatbot at any time, learners are not limited by the time limitations typically seen in traditional classroom environments. Firat (2023) affirmed that when learners engage with a language model, they obtain prompt replies that facilitate the identification and correction of errors, hence enhancing language accuracy. Furthermore, Wu et al. (2023) claimed that this real-time feedback creates a favorable setting for ongoing development and encourages a thorough comprehension of grammatical principles and sentence patterns.

The benefits of AI can be used as additional explanations for the study's findings. AI technology offers the potential to improve English language proficiency. Students can understand English more rapidly since so many learning devices are available. A vast range of AI-powered ELT applications are available to students. AI has a revolutionary effect on learning and mastering the English language. It creates a more effective and captivating learning environment by offering individualized learning experiences and real-time feedback and correction. AI-powered technologies can assess a learner's skill level in areas like grammar, pronunciation, and vocabulary and adjust the information accordingly.

AI-driven technologies may replicate authentic conversations and scenarios, providing learners with real-world language application opportunities. Additionally, by comparing learners' speech to that of native English speakers, AI can help with pronunciation and accent improvement through the incorporation of voice recognition

technologies. As a result, AI is a complete learning partner that meets the individual demands of every student rather than just a tool for learning English.

AI is a potentially helpful technology for language acquisition. With cutting-edge technology, AI-powered language learning applications may tailor their lessons to your strengths and shortcomings. These applications can modify their information according to your skill level, learning style, and areas that require improvement. They include realistic dialogues, interactive activities, and immediate feedback—all essential to successful language acquisition. Additionally, they let you study at your own speed whenever and wherever you choose. As a result, learning a language with AI may be adaptable, practical, and fun.

This study may have some ramifications for EFL students. There are several benefits that AI in education may bring pupils. By adapting to the demands and learning pace of each learner, it promotes individualized learning. This customized method improves learning outcomes by facilitating students' faster and more efficient understanding of difficult ideas. Instantaneous feedback from AI-powered platforms can help students recognize and fix real-time errors. AI also makes learning more dynamic and exciting by providing various educational materials, including virtual labs, online textbooks, and simulation tools. AI can also automate repetitive processes like scheduling and grading, freeing students' time to concentrate more on their studies. Finally, AI can connect kids with teachers and resources throughout the globe, opening doors to global learning possibilities.

Teachers can make use of this study's findings. AI is not only capable of creating customized learning experiences but also provides insightful evaluation and feedback. AI English teachers can evaluate students' answers to exercises and offer immediate feedback on grammar, pronunciation, and error correction. Teachers may gather, assess, and get reports on student learning results and behavior trends via AI-powered technologies. AI has the potential to yield significant benefits for educators through predictive analytics. These benefits include the ability to forecast future performance, offer tailored interventions, identify at-risk children early, and improve teaching tactics. With this helpful information, teachers can assess their students' strengths and shortcomings in the classroom more thoroughly.

Additionally, educators have the opportunity to advance their pedagogical approaches and provide their pupils with the greatest possible education. There are several advantages of using AI in English language instruction. First, instructors may concentrate more on education and student engagement since AI boosts efficiency by automating administrative activities (Wang et al., 2021). Second, AI makes individualized learning easier by adjusting to each student's unique learning preferences and speeds, which boosts engagement and results (He et al., 2020). Last but not least, AI can provide students with immediate feedback, enabling them to recognize and fix their errors in real time—a beneficial function for language acquisition (Boulton, 2019).

In summary, this study demonstrated the benefits of AI on EFL learners' speaking, AE, WTC, and PBG. All things considered, instructors face both possibilities and problems due to AI's growing presence in education. Instructors may use AI to enhance student performance and advance equality in the classroom by adopting a proactive attitude toward this technology. This will allow educators to maintain instructors' unique role in helping students grow, develop, and learn. For this reason, using AI-powered technologies in conjunction with instructional methodologies is still essential.

AI integration in English instruction marks a revolutionary turn in language learning, with many benefits that tackle both conventional and contemporary educational issues. The most important of them is the customized education that AI offers, which adjusts to each student's speed, learning style, and skill level. AI's ability to provide quick, focused feedback on language challenges further enhances this customization and greatly accelerates learning.

Through interactive language practice with tools like conversation simulators and pronunciation correction features, AI also plays a critical role in improving language abilities. It helps students understand difficult grammatical principles and broaden their vocabulary by providing relevant and exciting learning resources. AI technologies offer unmatched accessibility and resource availability, with a plethora of varied, interactive materials that accommodate a range of learning preferences and round-the-clock availability.

Significantly, AI addresses teacher shortages and other conventional hurdles to language learning, opening access to high-quality English instruction for a broader range of learners. It's vital to recognize AI's present limits because it can't completely replace human language acquisition. Future developments in AI hold the potential to deliver increasingly more complex and customized learning environments. AI has enormous promise and is still developing, pointing to a time when language instruction will be more efficient, individualized, and accessible. It is recommended that educators and students use these AI technologies to improve the English language learning process.

AI integration in language education can lead to cutting-edge approaches to teaching and learning that better meet the needs of the twenty-first century. Instructors should use AI technologies to support conventional teaching techniques and provide students with a more comprehensive and successful learning experience. For students, this means using these tools to advance their language proficiency and make learning more adaptable, attractive, and tailored to their learning paths. AI is the engine driving the future of English education. Let's seize this opportunity to adapt and realize language learning's most tremendous potential in the digital era.

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