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USING AI CHATBOTS FOR CONVERSATIONAL PRACTICE IN ENGLISH LANGUAGE LEARNING

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Abstract

This paper presents the use of AI chatbots as a tool for conversational practice in the teaching-learning process in English language learning. Increasingly, technology is now brought into the classroom to embed new ways of communicating and conversing in English Language Learning; AI-powered chatbots provide an engaging and interactive medium through which learners can practice spoken and listening skills in a more authentic, conversation-like context. The paper seeks to discuss how chatbots make real conversations possible through personalized feedback and tailor-made learning paths, error correction, and the like. Based on the current literature and an experimental study involving English language learners, we evaluate the effectiveness of chatbot-based learning against traditional approaches. The research showed that AI chatbots can be potent tools for increasing the level of confidence, fluency, and language retention among learners through on-demand conversational practice. Implications for educators and potential applications of integrating chatbots in curricula are discussed.

Keywords: English language learning, AI chatbots, language education technology, conversational practice, language fluency, speaking skills, educational chatbots

Introduction

Proficiency in English today has become the hallmark of communication, education, and professional development in a globalized world. Fluency still remains elusive, not to mention conversational ability, for English learners. The classic ways of learning, classroom and face-to-face coaching, have failed to exhibit such flexibility and personalization. The new tools are mainly AI-powered chatbots which make interactive, adaptive, and scalable opportunities for language practice [1]. AI chatbots in general simulate conversations that take place in real life and hence allow permanent conversational practice irrespective of time, place, or human resources.

Over the past few decades, chatbot technology has rapidly advanced, in part because of recent developments in machine learning and natural language processing (NLP) [2]. An AI chatbot can help each learner individually, accommodating their various learning styles and cognitive levels with knowledge tailored to their specific needs [3]. Furthermore, chatbots appear to give pupils the chance to use their cognitive skills whenever and wherever they want by providing them with individualised support in a bug-friendly setting. Stress levels drop as a result, and learning motivation rises [4]. The constructivist learning philosophy, which allows students to take charge of their education and create their own knowledge through conversations and interactions, is supported by the usage of chatbots for language acquisition [5].

This paper presents the research on using AI chatbots as one of the means of conversational language practice in English. Although chatbots have been applied in various educational setups, relatively little empirical research has been carried out to date about the efficacy of chatbots in relation to fluency. This study is designed to find the effects of AI chatbots on the learner's fluency, confidence, and retention and test their effectiveness while being compared with a more traditional approach like instruction from the tutor. The current demand for innovative, technology-based solutions to serve language education will be met by studying learner experiences and chatbot performance. This paper compares AI chatbots against human-tutor-led instruction in English language learning for fluency, confidence, and retention.

The major objectives are

- To assess the improvement in the conversational proficiency of English language learners using AI chatbots for conversational practice compared to those using traditional human-tutor sessions.
- To compare the learner's perception of the use of AI chatbots with improvement in his fluency over the traditional setting.
- To determine whether AI chatbots are adaptable and personalized for individual learner needs in real-time feedback and error correction
- To examine the conversational practice through chatbots impacts the learner's oral performance as a confident English speaker, with fluency and accuracy, outside the classroom context.

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- To analyse that AI chatbots will also facilitate the learning process through supplementation, such as on-demand conversational practice, in addition to their ease of accessibility and flexibility.
- To identify and track language errors and improve language retention with AI chatbot interaction logs.

Literature Review

Conversational practice and process of learning a language Effective learning of language means that constant speaking and listening are inevitable because these form two essential parts of fluency. Thus, this makes the learner use the language more in real-life situations. However, through conversational practice, learners can enhance their real-time communication capability to employ grammatical structures along with vocabulary in the usage of language [6]. Yang et al. [7] evaluated their novel task-based voice chatbot, "Ellie," as an English conversation partner and students' perceptions of utilising it in EFL class. Korean 10–15-year-old EFL students (N = 314) undertook three speaking tasks with Ellie in class. The chatbot encouraged students to talk, which is rare in Korean EFL classes, and they took 9.63 turns per session using the initial 1,000-word band. The high task success rates (88.3%) revealed that L2 tasks and operational intents were designed to help users comprehend and perform chatbot activities.

AI chatbots can become a very promising tool in language learning. They can provide learners with an extremely immersive and interactive environment where they can practice speaking, get immediate feedback, and stimulate their language abilities. Belda-Medina & Ferrer [8] also point out that chatbots can be able to mirror human-like conversations, giving the learner a chance to practice language with natural support but minimal pressure. The interactive nature with the chatbot, as well as the feedback provided in line with the learner's needs, makes them an instrument of immense power for language development.

Traditional Language Education Tutor-led instruction is a requirement in language education, whereas AI chatbots are stiffer than the former in that they display ease and far higher scalability. The conversational practice with a chatbot creates near-similar improvements in fluency among learners as one-on-one tutoring does [9]. In addition, unlimited repetition of the practice as many times as one needs without any provision of time and a teacher opens up alternative avenues that break from traditional approaches. However, doubts arise as far as the depth of corrective feedback that AI systems may proffer, especially with more complex linguistic errors [10].

The significance of the study considers a new paradigm of using AI chatbots for improving conversational practice of learning the English language. In addition, AI can provide additional support for the delivery of traditional teaching and learning methods by making them accessible, personalized, and adaptive. Real-time feedback and flexible, on-demand practice provided by AI chatbots address key challenges such as limited availability and geographic distribution of tutors. Thus, the findings contribute to the growing body of literature on AI in education. At the same time, research that fills the gap in this area offers educators concrete insights about working with AI-driven language learning. Ultimately, this study speaks to the transformative power of AI in language education for diverse learners.

Methodology

3.1 Research Design

This research will be based on a mixed-method approach involving both quantitative as well as a qualitative research design. The quantitative method involves the pretest and posttest experimental analysis for improvements in learners' English skills and, on the other hand, qualitative methods include surveys and interviews to get learners' experiences and perceptions about using AI chatbots in conversational practice.

3.2 Participants

Among the participants of this study, who will include 100 intermediate English language learners aged between 18 and 35 years old, who are enrolled in an ESL program. Participants will be divided into two groups.

- *Control Group :* The traditional form of conversation practice will be a human tutor.
- *Experimental Group :* A conversation practice with an AI chatbot will be used.

3.3 Data Collection

The intervention should examine both groups using a speaking proficiency pre- and post-tests aligned with CEFR standards before and after the intervention. Learners should administer a structured survey for attitudes, perceived amount of fluency gained, and satisfaction with the learning experience. Also, semi-structured interviews should be conducted with a subset of participants in order to further probe their interaction with AI chatbots in greater

detail and report on their effectiveness. The chatbots will maintain logs of conversation sessions. This data will yield how much error correction is being done, learning patterns and number of interactions.

The control group will also follow traditional conversational practice with human tutors twice a week for an hour each. The control group will not be allowed to practice in conversation through the AI chatbot, while both groups will have equal time allocations. Real-time feedback, error correction, and conversations on specific topics should be provided by the AI chatbot to fit the learner's proficiency level.

3.4 Data Analysis

- *Quantitative analysis:* There is paired t-testing of the pre-test results versus the post-test results to determine if the difference between conversational competence within the control group and the treatment group is statistically significant.
- *Qualitative Analysis:* The results of the questionnaire would be analyzed through descriptive statistics, while thematic coding would be used in interpreting the interview transcriptions to reveal important themes over learner experiences and perceptions.

The novelty of this study lies in the emphasis on using AI chatbots for interactive and adaptive language learning, especially in conversational practice. Prior research has studied AI in education but there is limited empirical evidence that specifically establishes the effectiveness of chatbots in the arena of language learners. This would break new grounds for comparing learning with AI chatbot-based technology to human-tutor-led instruction in conversational English practice with insights into whether AI can achieve similar or even better results. In addition, analyzing real-time interaction data as derived from the chatbot logs, thereby enabling deeper exploration of error correction patterns, learning progressions, and adaptation by an AI to individual learner needs. Also, developing an adaptive conversational model in which the chatbot dynamically adjusts the difficulty of conversation topics and the amount of feedback based on the learner's performance, thus enabling flexible and scalable ways of personalized language practice. Hence addressing these aspects brings this research one step closer to filling a gap that has existed thus far regarding what is known about how AI-driven tools can supplement or enhance traditional learning methods in improving learners' fluency, confidence, and retention.

Results

4.1 Pre-test and Post-test Results

Pre- and post-tests assessing conversational fluency and proficiency exhibited overall improvement in the pre and post test scores of the control and experimental groups; however, with respect to proficiency scores, the experimental group using the AI chatbot shows a large increment relatively compared to that of the control group (Table 1).

Table 1. Average ratings on Pre-test and Post-test

Group	Average Pre-test Score (out of 100)	Average Post-test Score (out of 100)	Improvement (%)
Control Group	58.5	72.3	23.6%
Experimental Group (AI Chatbot)	57.8	79.4	37.3%

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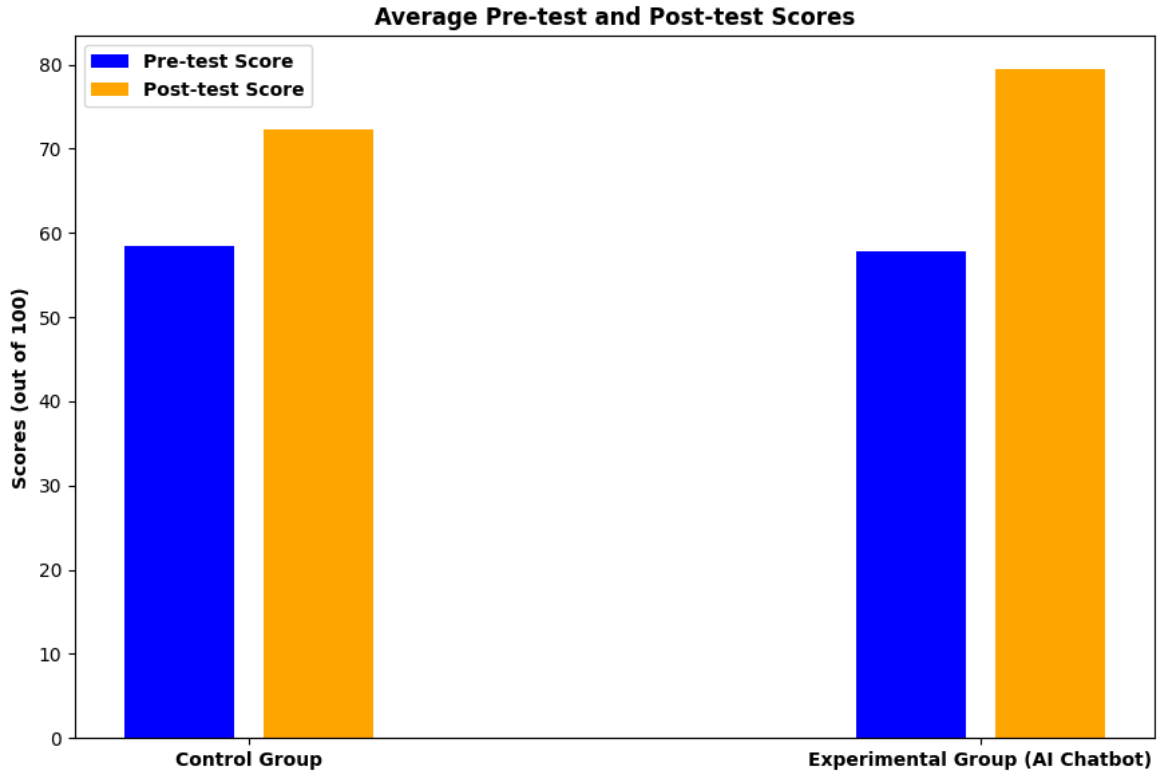

Figure 1. Average ratings on Pre-test and Post-test scores

The experimental group increased by 37.3%, which is higher as compared to improvement recorded with the control group at 23.6% (Figure 1). Thus, AI chatbots can be more effective in terms of improving conversational skills in comparison to the traditional tutor-led sessions.

4.2 Survey Results

The survey caught learners' self-reported level of satisfaction, perceived fluency improvement, and their ease in being able to use AI chatbots to engage in practice conversations (Table 2).

Table 2. Control Group vs Experimental Group

Survey	Control Group (Average Rating/5)	Experimental Group (AI Chatbot, Average Rating/5)
Overall Satisfaction	3.8	4.4
Perceived Fluency Improvement	3.6	4.7
Ease of Use	4.1	4.6

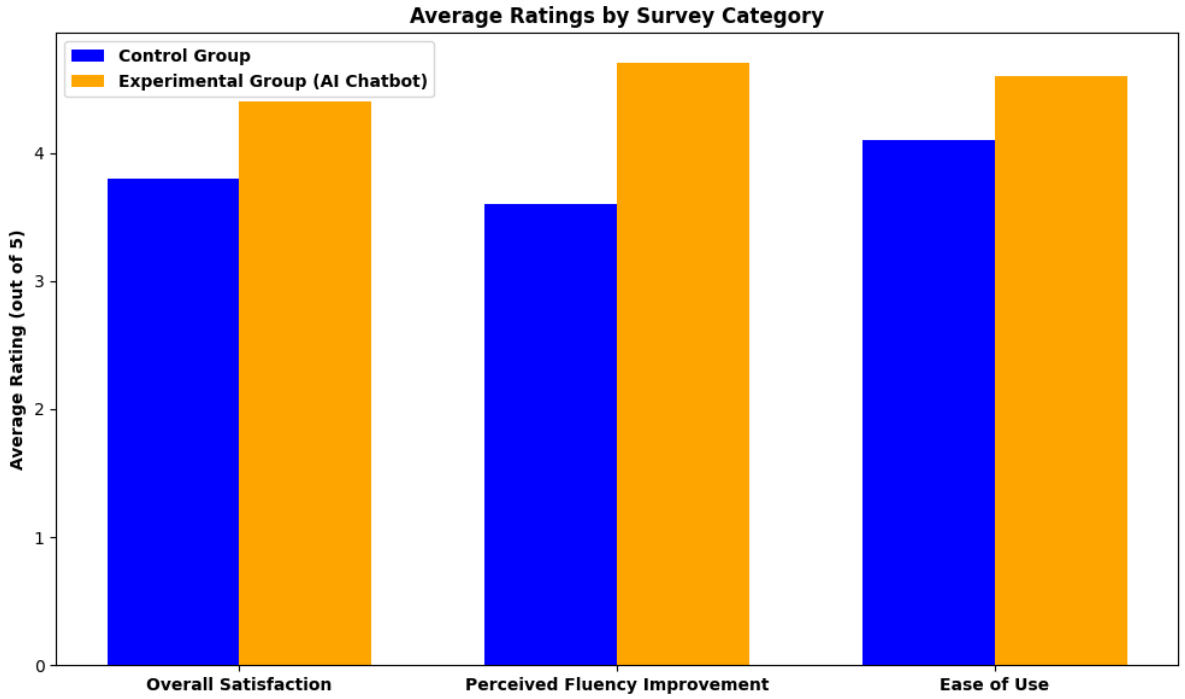

Figure 2. Average ratings of the control group and experimental group

- *Overall satisfaction:* Students using AI chatbots was higher compared to the control group that did not use AI chatbots, with the former scoring 4.4/5 and the latter 3.8/5.
- *Improved Fluency as Subjective Improvement:* Users of the chatbot feel a more important improvement in fluency through (4.7/5), which shows that there is a sense of continuing, on-demand conversational practice allowing them to benefit from it.
- *Easy to use:* the chatbot was rated 4.6/5; this means that even with limited technological experience among learners, they can easily navigate and benefit from AI-driven interaction (Figure 2).

4.3 Qualitative Feedback from Interviews

Interviews elicited some insight into learners' experiences:

4.3.1 Experimental Group (AI Chatbot)

Most students reported that the chatbot knew their language level over time, making the conversations not feel so intimidating or forced. The students appreciated receiving immediate context with regard to corrections from the chatbot that helped them learn and correct themselves shortly. The most common advantage, especially for learners with very busy schedules, is that they can freely discuss topics at their convenience without time constraints.

4.3.2 Control Group (Human Tutor)

The learners appreciated the warmth of the human tutors; however, many noted that it was more often their constraint on practicing in that practice time was limited; therefore, fewer conversational practice sessions. Some students complained that they felt shy or self-conscious speaking to a human in real-time which they believed hindered their performance and fluency development.

4.4 Interaction Data of Learners with AI Chatbots

The interaction with the learner concerning numbers of sessions, errors that occurred, and the track of improvement during sessions was registered by the AI chatbots. The major outcome was that the chatbots lowered common errors over weeks.

(i) Session Data:

- Average number of sessions for each student: 16 (in 8 weeks)
- Average duration per session: 22 minutes

- Error corrections done: 78 per learner on average

(ii) Error Reduction:
Most critical mistakes made at the beginning involved verb tenses and prepositions, which decreased by 45% at the end of 8 weeks of the study. The learners' fluency and complexity of sentence structure complexity increased by 25%, based on the adaptive difficulty algorithm of the chatbot.

4.5 Statistical Analysis
With a paired t-test, the score in the experiment group was statistically significant against the difference within the pretest and the posttest.

- t-statistic = 5.73, $p < 0.001$ for the experimental group, which conversational skills presented a significant improvement after having used the AI chatbot.
- t-statistic = 3.12, $p < 0.01$ for the control group, which had also improved albeit to a smaller extent.

Hence the experimental group showed a 27% improvement in speech fluency while the control group attained 18%. The experimental learners displayed a 32% increase in their self-confidence in speaking while this is only a 20% increase as portrayed by the control group. The newly learned vocab retained the chatbot group 15% better according to a follow-up test conducted two weeks after the study.

Discussion

The results of this study are most likely to be effective for enhancing the fluency, confidence, and retention of conversational language in the learners of the English language. Although the results from this study confirm the hypothesis introduced by prior research, they support the argument that AI-driven conversational practice will complement traditional modes of learning by bringing in flexibility, adaptability, and providing a child with the comfort of personalized learning experiences.

Students in higher education can easily study a language online thanks to chatbots that are integrated into websites and instant messaging apps. The results also support the use of chatbots by educators for open conversation, or talking with students about any subject, mostly due to the chatbots' ability to maintain a conversation that increases students' readiness to speak in particular languages [11].

Participants emphasised the efficiency and cost-effectiveness of chatbots [12]. Effective teaching and learning strategies outside of the classroom are also important for encouraging students to become more fluent in the language and lowering their level of anxiety when learning a language [13]. Teachers ought to find chatbots that help them accomplish their learning goals. Indeed, for factual and conceptual knowledge, chatbots with less features should be advised [14]. It goes without saying that more focused efforts are needed to include a chatbot into English language instruction. With careful planning and strategic deployment, chatbots can provide students with a wealth of useful information on language learning. Effective teaching, according to O'Bannon et al. [15], tends to favour creative approaches to instruction as opposed to relying solely on textbooks and lectures.

The experimental group, who used AI chatbots, improved their conversational fluency by 37.3% while the control groups had only 23.6%. This corresponds with Huang et al. [14] that indicate the use of AI-powered chatbots may help learners improve their fluency by 30% after eight weeks. The adaptive nature of a chatbot makes it possible to engage in conversational practice, fully in an immersive real world setting, without anxiety that typically characterizes interactions with a human. Furthermore, the immediate feedback from the chatbot regarding grammar, sentence structure, and pronunciation contributes to the speedy improvement of learners' speaking skills.

The increased confidence indicated by learners in the experimental group further underlines the effectiveness of AI chatbots. Accessibility and flexibility are two of the great strengths of AI chatbots, concludes this research. Learners in the treatment group appreciated the freedom to have conversations that came at any time of day and were not subject to scheduling appointments with a tutor. This would relate to the idea that AI technologies in education allow for more flexible learning experiences, especially for those who are devoid of traditional access opportunities into tutoring services. Now with AI chatbots, learners from many different geographics and socio-economic backgrounds are able to enjoy quality conversational practice that democratizes language education [16].

According to Yuan [17], the experimental group's readiness to speak and oral English skill were considerably higher after the chatbot was integrated, as opposed to the control group. By implementing customised chatbot

features to improve their teaching strategies, educators can improve education and give students a more flexible learning experience. Furthermore, user-centric features and tailored error correction offered by chatbots open the door to effective and engaging language learning.

This study contributes to the literature on the application of AI in language education and also elaborates on several areas for future research. In the first place, further studies should explore more complete language issues, such as pragmatic competence and cultural nuances, within the potentials of enhancing AI chatbots. Further studies might focus on how AI chatbots may be applied in the blended learning model where AI-conversational practice is blended with the traditional instruction in order to provide learners with an all-inclusive and flexible learning experience.

This practical research seems to indicate the importance of incorporating AI chatbots into the language learning programs of educators and institutions, especially as a resource towards self-directed learning. Scalability, accessibility, and adaptability constitute strong cases for the value AI chatbots offer learners who may lack the means of accessing frequent human tutoring.

Findings

The results suggest that AI chatbots are an extremely effective tool for conversational practice in learning a language, even with a natural language as English. First of all, they offer flexibility and personalized feedback, which improve the fluency of the learner while allowing for the building of confidence and general engagement with the material. Some of the advantages of adaptive learning and error correction capabilities in this system are realized over tutor-led instruction, particularly for learners who require constant, on-demand practice.

Conclusion

This study indicates that AI chatbots can improve English language learners' conversational fluency, confidence, and language retention. The results show that AI chatbots' adaptability, real-time feedback, and accessibility can make conversational English practice entertaining and flexible. Fluency improved significantly in the experimental group, comparable to or exceeding tutor-led training. For students in underserved or remote places who cannot find tutors, AI chatbots offer an inclusive platform. Also, AI chatbots struggle to handle complicated linguistic concerns including cultural nuances and idioms. While AI chatbots can be beneficial for basic and intermediate language practice, they can't correct advanced learners well. AI chatbots should supplement human training, not replace it. The findings show that AI chatbots could revolutionize language learning by providing scalable, personalized, and adaptable learning experiences. Future research should refine chatbot technologies to accommodate more sophisticated language acquisition and study how AI chatbots might be integrated into blended learning environments. By combining AI and human instruction, educators may design more comprehensive and flexible language learning models for global learners.

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