



REVISTA KRONOS

AI Chatbot Interaction on Enhancing Strategic Competence in B1 EFL students

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ABSTRACT Language learning teaching has been impacted by Artificial Intelligence (AI), which offers tools that support the systematic advancement of communicative skills. This research examines the effect of the AI chatbot interaction for enhancing the learners' strategic competence in B1 English as a Foreign Language (EFL) learners at Colegio Bilingüe Marie Clarac. Based on communicative language teaching and theory of strategic competence, the research design is characterized as mixed methods, comprising pre- and post-test assessments, surveys and interviews to explore chatbot-mediated language learning. The study investigates how planning, monitoring and regulation strategies for effective communication are encouraged by chatbot interactions. It is found that AI chatbots help improve learners' structure of discourse, self-monitor language use, and exploit repair strategies that are conducive to increased conversational fluency and autonomy. Results from the statistical analyses elucidate significant increases in indicators of strategic competence following the intervention, echoing strong evidence of the utility of AI feedback and adaptive scaffolding. This study contributes to the existing knowledge base on AI assisted language learning demonstrating how chatbots can be used as apt learning tools in terms of being interactive, responsive, and as a personalised tool of learning. Finally, this research concludes with the recommendation on including AI chatbots into EFL curricula to complement the learners' competence gaps in the use of strategies and promote communicative proficiency in real life settings. Longitudinal impacts and the scalability of chatbot mediated learning across different linguistic and educational contexts are a field for future research.

KEYWORDS AI Chatbots, Strategic Competence, EFL Learning, Language Acquisition, Communicative Strategies

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Interacción con Chatbot de IA para mejorar la competencia estratégica en estudiantes de inglés como lengua extranjera de nivel B1

RESUMEN La enseñanza de idiomas se ha visto afectada por la inteligencia artificial (IA), que ofrece herramientas que apoyan el avance sistemático de las habilidades comunicativas. Esta investigación examina el efecto de la interacción con el chatbot de IA para mejorar la competencia estratégica de los estudiantes de inglés como lengua extranjera (EFL) de nivel B1 en el Colegio Bilingüe Marie Clarac. Basado en la enseñanza comunicativa de idiomas y la teoría de la competencia estratégica, el diseño de la investigación se caracteriza por ser un método mixto, que comprende evaluaciones previas y posteriores a la prueba, encuestas y entrevistas para explorar el aprendizaje de idiomas mediado por chatbot. El estudio investiga cómo las interacciones con el chatbot fomentan las estrategias de planificación, supervisión y regulación para una comunicación eficaz. Se ha descubierto que los chatbots con IA ayudan a mejorar la estructura del discurso de los alumnos, a supervisar el uso del lenguaje y a aprovechar las estrategias de reparación que conducen a una mayor fluidez y autonomía en la conversación. Los resultados de los análisis estadísticos ponen de manifiesto un aumento significativo de los indicadores de competencia estratégica tras la intervención, lo que se hace eco de las sólidas pruebas de la utilidad de la retroalimentación de la IA y el andamiaje adaptativo. Este estudio contribuye a la base de conocimientos existente sobre el aprendizaje de idiomas asistido por IA, demostrando cómo los chatbots pueden utilizarse como herramientas de aprendizaje adecuadas en términos de interactividad, capacidad de respuesta y personalización. Por último, esta investigación concluye con la recomendación de incluir chatbots con IA en los planes de estudio de inglés como lengua extranjera para complementar las deficiencias de los alumnos en el uso de estrategias y promover la competencia comunicativa en situaciones de la vida real. Los impactos longitudinales y la escalabilidad del aprendizaje mediado por chatbots en diferentes contextos lingüísticos y educativos son un campo para futuras investigaciones.

PALABRAS CLAVE Chatbots con IA, competencia estratégica, aprendizaje del inglés como lengua extranjera, adquisición del lenguaje, estrategias comunicativas.

INTRODUCTION

General background

The integration of AI in education has the potential to revolutionize language learning, particularly in enhancing strategic competence among B1 English as a Foreign Language (EFL) learners. Strategic competence is defined as the ability to use language learning strategies effectively and is crucial for language acquisition and communication success (Oxford, 2017). Despite the importance of this skill, many EFL learners, even those from privileged backgrounds, lack well-developed strategic competence (Gilakjani, 2017). AI chatbots, such as those studied by Karunarathne et al. (2024), Majorana et al. (2022), and Michalon & Camacho-Zuñiga (2023), have shown promise in providing personalized, real-time support that enhances learning experiences and outcomes. These tools offer tailored assistance, promote self-directed learning, and continuous engagement, which foster strategic competence. Additionally, AI chatbots can address the diverse needs of students and provide support outside traditional classroom hours, making them a valuable resource in educational settings. The positive feedback from students and educators alike underscores the potential of AI chatbots in facilitating the acquisition of strategic competence among B1 learners, suggesting a promising direction for future research and implementation. Effective communication hinges on proficient speaking skills, which is one of the toughest challenges for EFL learners. Proficiency in speaking enables learners to communicate ideas effectively, participate in conversations, and engage in academic as well as social interactions. Nonetheless, many EFL students find it difficult to speak because of vocabulary constraints, issues with pronunciation, and fear of making errors. These speaking difficulties are closely linked to limited strategic competence, as learners often lack the strategies required to manage breakdowns, maintain fluency, and compensate for linguistic gaps. As a result, there is a great need to improve speaking skills so that learners can use English in real-life contexts with much ease. This study aims to address this gap in the speaking skill by investigating the impact of AI chatbot interaction on the strategic competence of B1 learners at Colegio Bilingüe Marie Clarac in Tumbaco, Ecuador.

Problem to be investigated and the elements that justify the problem

This study assumes that meaningful interaction in the form of multiple conversations with AI chatbots will boost strategic competence of B1-level language learners, leading to measurable improvements in speaking performance such as increased fluency, coherence, and effective repair during interaction through real-life communicative practice and instant feedback. Namely, the overarching inquiry is: *How helpful will the application of structured conversations mediated by AI chatbots be to develop learners' use of communication strategies?* AI chatbot interactions are expected to establish a low-anxiety setting that guides fluency through strong and mindful training, which in return is expected to foster strategic competence and subsequent improvement of B1 learners' communicative competence in the target language. In addition, conversations mediated by AI are anticipated to enhance learners' ability to handle communication difficulties, coordinate meaning making and monitor conversation more effectively than traditional classroom instruction, therein the reason of its conducting.

The problem addressed in this study is the insufficient development of strategic competence in the speaking skills of B1 EFL learners, as identified through diagnostic assessments, classroom observations, and speaking task performance. B1 EFL learners at Colegio Bilingüe Marie Clarac. This deficiency manifested as hesitancy in communication, difficulty understanding authentic materials, and limited use of language learning strategies.

Research Aim

This research aims to investigate the impact of AI chatbot interaction on enhancing strategic competence in B1 EFL learners. To accomplish this, the study will employ a mixed-methods approach, seamlessly integrating quantitative and qualitative data collection and analysis techniques.

Specific Research Objectives

The specific objectives of the research are threefold:

- To identify the specific strategic competence gaps in the target learners through a LIKERT survey.
- To evaluate the efficacy of the AI chatbot intervention in enhancing strategic competence dimensions such as planning, monitoring and regulation by means of the T-test analysis of the pre and post-test results
- To explore the perceptions of B1-level students regarding the impact of AI chatbot interaction on enhancing strategic competence through an open-ended interview.

LITERATURE REVIEW

AI Chatbot Interaction

Research on the implementation of AI chatbots in the English as a foreign language setting promptly emphasizes their usefulness in giving adaptive feedback and developing language in a strategic manner. Across instructional settings, there is evidence that chatbots have promoted learner centered interaction by providing personalized feedback in real time, and therefore, helping students learn communicative strategies and support independent learning (Amin, 2023; Kavak et al., 2024; Pitychoutis, 2024). This flexibility fosters low-anxiety classroom conditions, in which students are more likely to take a chance with language and to take strategic risks towards language; they are found in the secondary school and teacher-training situations (Kalenska, 2024; Shikun et al., 2024).

A second theme related to the use of chatbots is the issue of communication breakdowns and repair strategies management. Empirical studies indicate that chatbot-mediated interaction provides good practice in asking clarification, paraphrasing speech and meaning negotiation. These three skills are core to strategic competence and conversational fluency (Bibauw et al., 2022; Dippold, 2023; Fryer and Carpenter, 2006). The resulting low-stakes setting helps learners to react adaptively to misconceptions, thus enhancing strategic awareness or confidence in the context of interaction.

However, limitations and tensions involved in chatbot-supported learning are also mentioned in the literature. Although chatbots facilitate fluency, motivated strategic experimentation, and a general mood of encouragement (Thi'Quynh, 2024), their often task-driven and fully automated character may result in both a contextual gap and oversimplified feedback which need to be addressed strategically by learners in the absence of tone (Dippold, 2023). Furthermore, there are also issues of misinformation and the need of digital literacy to underline that the success of chatbots can also be determined by informed and pedagogically consistent implementation (Kalenska, 2024). As Bibauw et al. (2022) note, the benefits of chatbot interaction can be fully realized when this usage is critically tied to the goal of instruction.

Altogether, these works indicate that using AI chatbots facilitates the formation of strategic capacity by means of adaptive feedback, real-time practice, and mitigating the affective barriers, although at the same time, they also highlight the necessity of critical utilization and mediation instruction to reduce the existing limitations of such systems. Collectively, these studies confirm that chatbots support strategic development by enabling real-time practice, adaptive support, and a low-anxiety learning context.

STRATEGIC COMPETENCE

In spoken interaction, strategic competence enables learners to maintain communication flow despite lexical or grammatical gaps, directly supporting speaking fluency. Shaikh (2024) characterized it as a blend of linguistic, sociolinguistic, and strategic skills, with emphasis on cultural and contextual awareness. Kamil and Anuar (2022) addressed its workplace relevance, focusing on metacognitive and cognitive strategies for overcoming communicative hurdles. Malykhin et al. (2024) emphasized the need for targeted support in grammar, speaking, and writing to develop these skills. Zhang et al. (2024) provided empirical evidence showing how strategic competence moderates the impact of task complexity on speaking performance. Akeshova et al. (2023) advocated for integrating technology in teaching strategic planning and communication strategies.

Dawit (2020) described strategic competence in speaking as the use of verbal and non-verbal strategies to manage communication difficulties and ensure successful interaction. This includes paraphrasing, circumlocution, and clarification requests—techniques vital to navigating gaps in linguistic knowledge. AI chatbots offer a safe environment for students to practice and refine such strategies in real time (Malykhin et al., 2024). Over time, repeated chatbot-mediated interaction enhances learners' resilience and fluency (Zhang et al., 2024). Oktaviana (2021) emphasized the role of repair strategies in maintaining conversational coherence during spontaneous communication. However, the existing body of knowledge undoubtedly supports the importance of strategic competence and highlights the possible value of enhanced technology practice, but a lack of systematic study exists in the design and implementation of AI chatbots to develop strategic competence in B1 EFL speaking setup. This gap highlights the need for research that moves beyond general descriptions of strategy use to examine structured, level-specific chatbot interventions targeting strategic competence development.

DIMENSIONS AND INDICATORS

AI chatbot interaction is discussed in the context of a trifunctional model consisting of Focus, Adaptivity as well as Dialogue Management, each of which integrates key elements of strategic competence. Focus is related to the formulation of conversation goals, the expression of learning objectives, and domain control (Luxton, 2016); these operations are used to organize planning and goal-setting, which is a central component of strategic competence within the model by Bachman and Palmer (1996). The focus maintenance, as a part of the conceptualization of Celce-Murcia (2007), helps the learners to match the discourse organization with the communicative purpose. Adaptivity is based on the socio-cultural theory of Vygotsky (1978), which describes the ability of the learner to monitor and adjust the use of language in relation to feedback and scaffolding, thus reflecting the strategic monitoring and the use of compensatory strategies put forth by both theoretical systems. The concept of Dialogue Management, operationalized by the portrayed dimensions

of Complexity, Accuracy, and Fluency (CAF) as outlined by Shen et al. (2021) and Zhang (2023) represents regulatory processes, in which the learners control the interactional flow, correct the instances of communicative breakdowns, and balance the form and meaning in real-time. These dimensions, in combination, form a succinct theoretically based perspective on the measure of strategic competence in AI-mediated speaking interaction.

Strategic Competence as a dependent variable is divided into three dimensions: Planning, Monitoring, and Regulation. Planning includes Goal Setting and Information Gathering (Pintrich, 2000), while Monitoring involves Conversation Flow, Comprehension, and Problem Solving (Brown, 1987). Regulation focuses on Self-Evaluation, Error Correction, and Repair Strategies (Zimmerman, 2002), all crucial for iterative language improvement. The holistic framework emerging from this structure illustrates how AI chatbots can drive the development of critical communication strategies and learner autonomy.

RESEARCH APPROACHES AND METHODOLOGY

This research investigates the enhancement of strategic competence in B1 EFL learners at Colegio Bilingüe Marie Clarac in Ecuador through AI chatbot interactions. Strategic competence, as defined by Cambridge English (2020), involves the use of communication strategies to overcome language barriers, particularly in speaking. Given the transitional stage of B1 learners, AI-driven interventions like chatbots offer a practical solution for fostering personalized and low-stakes conversational practice. The study explores how chatbot-based interactions affect learners' communicative strategies and awareness of strategic competence (Creswell & Plano Clark, 2017; Dörnyei, 2020; Cohen et al., 2018).

A mixed-methods approach was employed, integrating both quantitative and qualitative data to provide a comprehensive analysis. Pre- and post-tests measured objective gains in strategic competence, while surveys and interviews provided contextual insights into learners' experiences. This triangulation of data enhances validity by corroborating findings from multiple sources (Tashakkori & Teddlie, 2010). The combination of numeric data and learner reflections ensures a holistic understanding of how AI chatbots influence strategic competence development (Johnson & Onwuegbuzie, 2018; Creswell & Creswell, 2018; Braun & Clarke, 2006).

Research Questions

1. What are the specific gaps in strategic competence among B1 EFL learners at Colegio Bilingüe Marie Clarac?
2. How meaningful is the AI chatbot-based intervention to enhance the strategic competence of B1 EFL learners at Colegio Bilingüe Marie Clarac?
3. What are the perceptions of B1-level students regarding the impact of AI chatbot interaction on enhancing their strategic competence?

The research design will adhere to a pre-test, intervention, and post-test model. The pre-test will assess learners' baseline levels of strategic competence, followed by an intervention period during which learners will actively interact with the AI chatbot. The post-test will then measure any shifts in strategic competence, enabling an evaluation of the intervention's effectiveness.

Research Instruments

Quantitative Methods included a Likert-scale survey assessing students' awareness and perceptions of strategic competence and chatbot use (Johnson & Onwuegbuzie, 2018). Pre- and post-tests were the *Cambridge FCE Speaking* exam. The adapted rubric assessed *planning*, *monitoring*, and *regulation* on a 0–5 scale to evaluate students' deployment of learning strategies, such as contextual inference and clarification-seeking. Statistical analysis determined the significance of observed changes.

Qualitative Methods involved open-ended interviews to explore their experiences with the chatbot, strategies used, and perceived benefits. Ten semi-structured questions exploring self-regulatory behaviours and attitudes toward AI-mediated practice. Thematic analysis was used to identify recurring patterns in student responses, offering deeper insights into learners' reflections.

Delimitation of Population, Sample, and Sampling

The student population at a private Bilingual School, located in Tumbaco, Ecuador consists of 269 students. However, the sample considered for this study consisted of 10 students (7 women and 3 men), 14-17 years of age, in the Edinburgh B2 class; all students were identified as B1-level English speakers based on PET Mock tests. Sampling is the process of selecting a subset of individuals from a larger population, ensuring that they adequately represent the population's characteristics (Creswell & Creswell, 2018). For this study, purposive or intentional sampling was employed, guided by specific criteria:

1. **Age and Educational Context:** Participants were teenagers aged 14 to 17, currently attending the Edinburgh B2 class at Colegio Bilingüe Marie Clarac.
2. **English Proficiency:** The students have a B1 level of English proficiency, as determined by standardized PET Mock tests.
3. **Developmental Suitability:** At this stage, participants are developmentally primed to enhance strategic competence, which supports their communicative effectiveness.
4. **Technological Affinity:** Their demonstrated interest in technology aligns with the study's use of AI-based tools, fostering engagement and relevance to future career aspirations.
5. **Institutional Support:** The school environment supports their participation in innovative learning methodologies, ensuring the feasibility of AI-driven interventions.
6. **Parental Consent:** Parents of nearly all participants have provided consent, allowing their children to engage in the study.

Description of the Methodological Proposal

The research proposal started with the diagnosis of students' English language proficiency which took place with the testing of PET mock exam in the academic year 2023-2024. Having determined their proficiency, 11 students answered a Likert-survey in order to gather insights regarding students' awareness of strategic competence and expectations of AI chatbot interaction, and consequently, took the pre-test. The pre-test consisted of the Speaking section from FCE exam. The scores about the level of strategic competence in students were obtained by means of rubric tailored to measure Strategic competence in student's performance during the speaking section from FCE exam (planning, monitoring, regulation: 0–5 each). After that, the intervention was conducted. The proposed intervention utilized ChatGPT's dynamic role-play capabilities to simulate Cambridge FCE Speaking Exam tasks (Parts 1–4), structured through tailored prompts that target strategic competence development. Students attended 4 lessons, one per week with a duration of 120 minutes each lesson. The learners attended four 120-min weekly lessons followed by the

post-test. Finally, the participants shared their perceptions and experiences regarding the influence of AI chatbot interaction on their strategic competence.

GENERAL AND SPECIFIC OBJECTIVES OF THE PROPOSAL

General Objective:

To enhance B1 learners' strategic competence in oral communication for effective performance in interactive speaking tasks through structured AI chatbot simulations replicating FCE Speaking Exam tasks.

Specific Objectives:

1. To measure improvements in learners' planning strategies by analyzing their ability to set communicative goals and organize ideas during AI chatbot-mediated speaking tasks, through pre- and post-test scores on the adapted FCE Speaking rubric (planning dimension: goal setting and information gathering, 0–5 scale) and supported by chatbot interaction logs showing response organization and task preparation.
2. To evaluate the development of monitoring skills by examining learners' real-time awareness of comprehension, conversation flow, and problem-solving during chatbot interactions, assessed through pre- and post-test rubric scores (monitoring dimension), quantitative gains identified via paired t-test analysis, and qualitative evidence from interview responses reflecting self-monitoring and feedback utilization.
3. To assess growth in regulation abilities by documenting learners' use of self-correction, repair strategies, and reflective adjustments during AI chatbot interactions, measured through pre- and post-test rubric results (regulation dimension), reductions in performance variability, and thematic analysis of interview data highlighting self-evaluation and strategic repair behaviors.

Research Question 1

What are the specific gaps in strategic competence among B1 EFL learners at Colegio Bilingüe Marie Clarac?

Several gaps in strategic competence were notably identified after the administration of the Likert survey. The 10 B1 students from Colegio Mariec Clarac reflected common insights regarding their awareness of strategic competence and expectations of AI chatbot interaction. As shown in the chart, approximately half of the survey items 5 out of the 10 items were used to assess specific aspects of strategic competence: planning, monitoring, and regulation. The other 5 items evaluated student's expectations for AI chatbot interaction in accordance with focus, adaptability and dialogue management.

Findings revealed significant deficiencies in terms of planning, particularly in goal setting and information gathering. Many students lacked clarity on the specific speaking areas they needed to improve, which hindered structured learning (Oxford, 2017). The absence of preparation often led to hesitancy and disorganized speech (Ahmed et al., 2022). Instruction targeting metacognitive awareness and goal setting frameworks could address these gaps (Akeshova et al., 2023).

Likewise, monitoring was another weak area. Students struggled to track their understanding during conversations and rarely asked for clarification or rephrased unclear input, highlighting a lack of self-regulation (Ellis, 2005; Alem, 2020). AI chatbot interactions, which provide instant feedback and scaffolding, have the potential to enhance these skills by increasing learners' awareness of speech patterns and comprehension gaps

(Ahmed et al., 2022). Ultimately, regulatory skills were also underdeveloped. Students rarely self-evaluated or reflected on their performance and were uncertain about how to repair misunderstandings. This lack of metacognitive strategy use limited their autonomous learning (Oxford, 2017). Structured chatbot tasks focused on reflection and feedback could promote self-evaluation and repair strategies (Akesheva et al., 2023).

The gaps established after the survey administration were outlined into a table that guided AI chatbot intervention design as shown in Table 1. This table synthesizes the most recurrently low-rated items from the survey. In short, the empirical data shows a recurring tendency in the lack of strategic competence that comes with a positive perspective on the AI-enhanced interaction and consequently leads to the next research question that examines how the current gap in the speaking performance of intermediate (B1) students can possibly be addressed with the aid of a chatbot intervention.

Table 1. *Strategic Competence Gaps*

Gap	Strategic Competence Aspect	Question Item
Lack of goal setting	Planning	I set specific goals for my speaking improvement, like speaking more naturally or making fewer grammar mistakes.
Difficulty in information gathering	Planning	I feel confident gathering information I need for speaking tasks, like thinking of key points for a conversation or comparing photos.
Weak comprehension monitoring	Monitoring.	I often check my understanding during conversations and adjust if I don't understand, like rephrasing or asking for clarification.
Limited self-evaluation	Regulation	After speaking in English, I usually reflect on how I did and consider what I could improve.
Struggles with repair strategies	Regulation	I know how to fix misunderstandings during a conversation, like rephrasing what I said if the listener seems confused.

Elaborated by the author

Research Question 2

How meaningful is the AI chatbot-based intervention to enhance the strategic competence of B1 EFL learners at Colegio Bilingue Marie Clarac??

In order to measure the impact of AI chatbot interaction, a Cambridge FCE Speaking mock exam was employed. The rubric was adapted to explicitly assess strategic competence through planning, monitoring, and regulation components (Akesheva et al., 2023). Pre- and post-tests were administered to track student progress, and the results were analyzed using a Paired T-test, which allows for the comparison of means in dependent samples and helps determine significant changes over time (Ahmed et al., 2022).

The assessments, based on standardized FCE mock speaking tests, were used to establish a baseline before the intervention and then to evaluate progress afterward. The intervention itself ran from January 6 to February 6, 2025, and comprised four carefully structured lesson plans. Each lesson targeted a different part of the FCE Speaking section

and followed a four-stage structure: (1) Instruction and modeling of strategies, (2) Guided chatbot practice with real-time feedback, (3) Independent exam-style practice, and (4) Evaluation based on performance during chatbot interactions. The lessons were spaced weekly: January 6–10, January 13–17, January 20–24, and January 27 to February 6. A post-test on February 6 concluded the intervention phase. This structured approach ensured systematic practice and assessment of strategic competence.

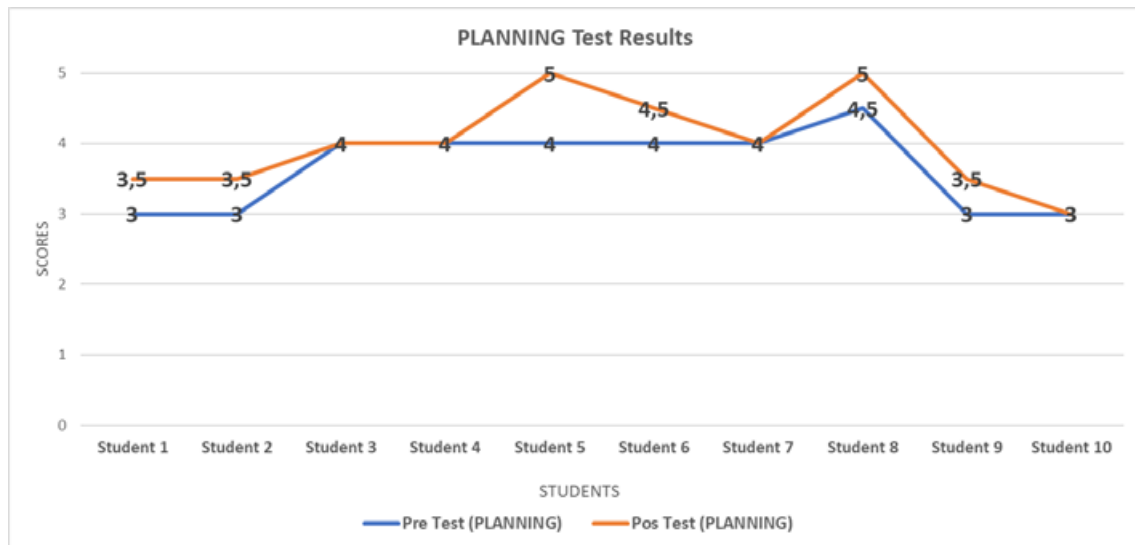
Results showed improvements in key strategic competence indicators, especially in planning. As detailed in Table 2, students demonstrated enhanced ability to structure speech and set communication goals. Their mean planning score increased from 3.65 to 4.00, with percentage scores rising from 73% to 80%, indicating progress in goal setting and information organization. An increased in standard deviation from 0.58 to 0.67 suggested greater consistency across learners. The AI chatbot interaction supported structured thinking and conversational preparedness, contributing to improved speech planning.

Table 2. *Planning Pretest and Posttest Results*

Nº	Pretest (PLANNING)	Posttest (PLANNING)
Student 1	3	3,5
Student 2	3	3,5
Student 3	4	4
Student 4	4	4
Student 5	4	5
Student 6	4	4,5
Student 7	4	4
Student 8	4,5	5
Student 9	3	3,5
Student 10	3	3
Average	3,65	4,00
Standard Deviation	0,58	0,67

Elaborated by the author

As Table 2 displays, the mean planning score increased from 3.65 in the pretest to 4.00 in the posttest, which is an indicator of an enhanced ability in goal setting and information gathering, two major subcomponents. The increase in percentage scores from 73% to 80% showed a gain of 0.0 – 1.0 points, most learners did make progress. The increase in the standard deviation from 0.58 to 0.67 indicates that competence also is uniform across the group. The AI chatbot interaction reinforced conversational objectives and promoted structured learning, which would have facilitated students' speech planning by promoting more effective outcomes, meaning that students would have prepared responses in a more confident and organized manner.

Figure 1. *Planning Comparison Pretest and Posttest*

As the statistical graph shows in Figure 1, the scores for planning post intervention have a consistent upward trend. The posttest line drops above the pretest line indicating learners improved their ability in planning conversations as can be seen in the cases of Students 5 and 8. Structured chatbot interactions also peak in individual performance where explicit support is provided for organizing ideas & setting goals. By analyzing the difference in scores between the pretest and posttest, adaptivity of chatbot was noted since learners were delivered tailored feedback and scaffolding which in turn helped them to refine their conversational preparation strategies. This notion fits well with the principles of Dialogue Management, which improved complexity, accuracy, and fluency (CAF) in chatbot, enabled simulations of actual real communication settings. Finally, the graph supports numerical analysis that the AI chatbot interactions meaningfully contribute to improving the planning skill through providing goal setting abilities and adaptive support in real time. In terms of monitoring, self-monitoring skills, critical for real-time conversational adjustments demonstrated substantial improvement as can be shown in Table 3.

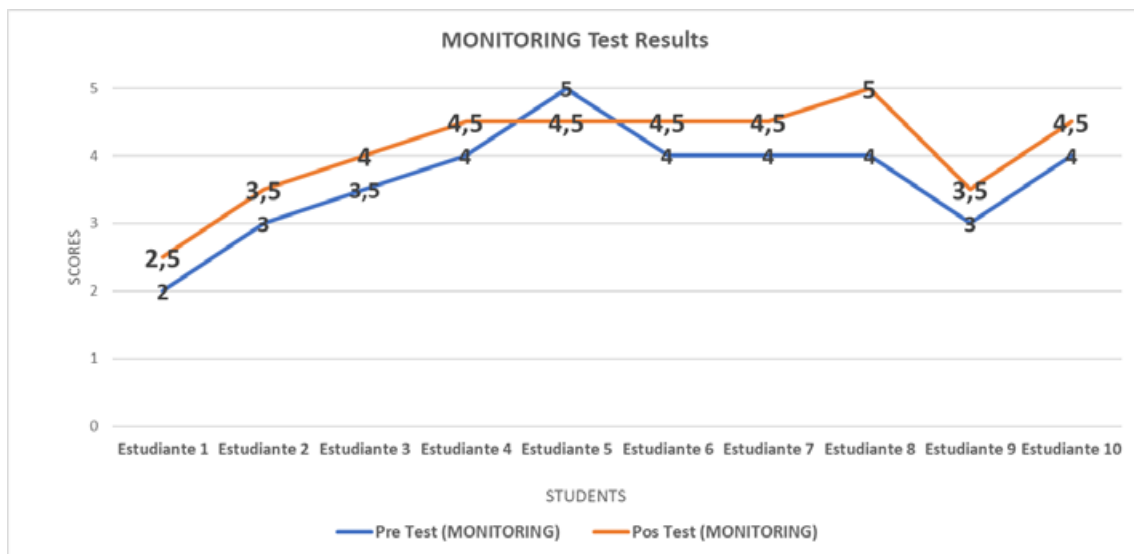
Table 3. *Monitoring Pretest and Posttest Results*

Nº	Pretest (MONITORING)	Posttest (MONITORING)
Student 1	2	2,5
Student 2	3	3,5
Student 3	3,5	4
Student 4	4	4,5
Student 5	5	4,5
Student 6	4	4,5
Student 7	4	4,5
Student 8	4	5
Student 9	3	3,5
Student 10	4	4,5
Average	3,65	4,10
Standard Deviation	0,82	0,74

Elaborated by the author

The AI chatbot interaction greatly improved students' monitoring skills which constitute an integral part of strategic competence. The mean score from the pretest monitoring was 3.65 and at the posttest monitoring was 4.10, demonstrating improvement in the real-time awareness of conversation flow, comprehension, and problem-solving strategies. Besides, the percentages also improved from average 73% to 82% with gain from 0.0 to 1.0 points, supporting a better student's ability to track comprehension and dynamically adjust speech. After intervention, the standard deviation went from 0.82 to 0.74, implying greater uniformity in learners' performance. This enhancement is, therefore, attributable to the chatbot's adaptation of scaffolding and personalized feedback, which reinforced monitoring strategies by encouraging learners to detect misunderstandings, advocate for changes in response, and sustain conversation flow. Structured prompts of the chatbot and instant corrective feedback enabled more active engagement in internalizing the chatbot's suggestions of effective monitoring techniques for spoken communication.

Figure 2. *Monitoring Comparison Pretest and Posttest*



Elaborated by the author

As shown in figure 2, most students displayed upward score trajectories, particularly Students 3, 6, and 8, whose gains were the most pronounced, showing that the students' stronger self-regulation strategies developed as they interacted with AI. Specifically, periods of high-performance reflected occasions when chatbot scaffolding led to significantly higher effects in facilitating adaptive comprehension adjustments and problem-solving skills. The results gap between pretest and posttest confirmed that AI driven monitor support led to an improvement in the learners' spoken interactions, therefore, the chatbot intervention was very successful in promoting learner's ability to monitor and adjust speaking dynamically in real-time conversation.

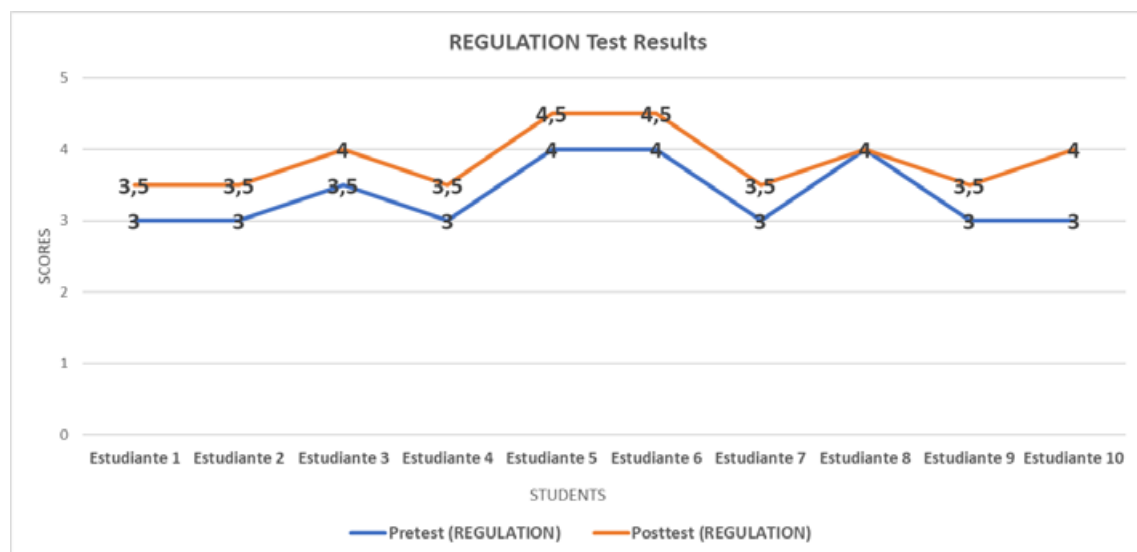
Lastly, the intervention yielded substantial gains in regulation skills, which are crucial for repairing misunderstandings and refining spoken communication as is depicted in table 4.

Table 4. Regulation Pretest and Posttest Results

Nº	Pretest (REGULATION)	Posttest (REGULATION)
Student 1	3	3,5
Student 2	3	3,5
Student 3	3,5	4
Student 4	3	3,5
Student 5	4	4,5
Student 6	4	4,5
Student 7	3	3,5
Student 8	4	4
Student 9	3	3,5
Student 10	3	4
Average	3,35	3,85
Standard Deviation	0,47	0,41

Elaborated by the author

The table 4 shows the increase of the mean regulation score from 3.35 to 3.85, which means that the ability for self-evaluation, error correction, and repair strategies improved. Furthermore, the average percentage scores increased from 67% in pretest to 77% in posttest, demonstrating more effective way of adjusting speech when communication breakdowns occurred. Finally, the standard deviation went down from 0.47 to 0.41, which means participants were more uniform in their use of strategic self-regulation skills, implying that chatbot interactions had increased the uniformity of strategic self-regulation skills among learners. Adaptive scaffolding and real time feedback mechanisms of chatbot enabled scaffolding of structured error identification and self-correction opportunities which accounted for the improvement made by the learners.

Figure 3. Regulation Comparison Pretest and Posttest

Elaborated by the author

The overall improvement of learners' ability to regulate their speech effectively, measured by the overall improvement, is verified through the posttest line being above pretest line in Figure 3. The chatbot's Dialogue Management dimension allowed learners to analyze their spoken errors, restructure responses and more academically refine their conversational style. The upward trend of the graph points to that with the support from chatbot, more autonomous speech adjustment in response to feedback was performed and continuous learning was achieved. Notably, peaks of performance in the posttest occurred after chatbot induced interventions that promote structured self-correcting strategies. This affirmed research claims that AI generated corrective feedback encourages metacognitive engagement, letting learners reflect on and bolster their performance while delivering oral productions in real time.

The intervention dynamically helped learners identify errors, modify responses, and strategically use language by providing task specific outcomes within a structured conversational domain. Somehow, through the integration of the Conversational and Cognitive AI aspects within the chatbot framework, a measurable and statistically significant improvement in the students' ability to self-regulate speech was observed, thus successfully testing out the efficacy of AI assisted interventions in helping students become autonomous in language learning.

Table 5. *T-test Results*

N	Dimension	T-test	
		T-statistic	P-value
10	Planning	-3,28	,010
	Monitoring	-3,86	,004
	Regulation	-6,71	,0001

Elaborated by the author

Results from the Paired T-test ($p < 0.05$) in Table 5, substantiate that the observed improvements were statistically significant and imply that the intervention played a part in the students' development of strategic competence. The p-values of the mean scores in planning, monitoring, and regulation showed a statistically significant increase ($p=0.010$, 0.004 , and 0.0001 , respectively) corresponding to the efficacy of the intervention. This could corroborate the statement that the AI chatbots act as good supplementary tools for EFL learners in helping them learn languages through guided feedback (Alem, 2020; Ake-shova et al., 2023).

Altogether, data demonstrates that there is a clear distribution of improvement on the three dimensions of strategic competence, and the gains are best exhibited in regulation, monitored and, finally, in planning. This tendency indicates that whereas learners reinforced their ability to organize and plan oral answers at the beginning of the AI chatbot intervention, the most significant pedagogical contribution of AI chatbot intervention was the emergence of the strategic control in real-time, in particular, self-correction, repair, and adaptive language usage. The statistically significant improvements in each of the three dimensions are supported by both descriptive statistics and paired t -test outcomes and suggest that, under structured chatbot interaction, the entire cycle of strategic competence preparation through real-time awareness and autonomous regulation can efficiently be scaffolded. Pedagogically, the results highlight the importance of AI chatbots as an adjunct instructional aid offering consistent, low-anxiety fostering guided practice facilitating learning of strategic behaviors to be effective recommended in touring oral communica-

tion by B1 EFL students. Combining goal-oriented prompts, an adaptive feedback system, and dialogue-management functions in accordance with exam-oriented speaking tasks, the intervention shows that AI-supported settings can promote strategic competence development in a significant way; furthermore, this behavior occurs under classroom-situation EFL.

Research Question 3

What are the perceptions of B1-level students regarding the impact of AI chatbot interaction on enhancing their strategic competence?

The open-ended interview sought a perspective view from students on the uses of AI chatbots to improve English communication skills with an emphasis on strategic competence development. Edinburgh B2 students participated in the interview in order to express their perceptions of their experience interacting with the AI chatbot. The instrument consisted of 10 items. The corresponding thematic analysis of the qualitative data was conducted on ATLAS.ti from which common codes were drawn as shown in Figure 5 to be further parsed and sorted into a table. The ten questions in the interview were designed to capture different aspects of strategic competence, such as conversational focus, adaptivity, dialogue management, planning, monitoring, and regulation. The purpose was to explore students' perceptions of the chatbot interactions and their speaking abilities, the strategies to resolve potential speaking problems, the setting of possible goals, and self-monitoring.

The questions targeted different components of strategic competence: One area examined how the chatbot was supportive in helping students with organizing their thoughts (Learning Objective); some addressed how adaptive the chatbot was in giving constructive feedback and support (Adaptivity); there were a number of items addressing how the chatbot made students aware of keeping activities in focus during conversational flow and solving speaking difficulties (Dialogue Management and Monitoring). In addition, self-regulation questions were included so that the students could discuss how they evaluated their own performance and made some changes (Self-Evaluation and Repair Strategies). The interview was planned in a way that responses would be no less than 20 words long so that detailed answers could give a good account of students' experiences and ideas. The interview primarily aimed to measure the extent of the effectiveness of AI chatbots in raising students' strategic competence in English communication.

Planning. Based on the results from the thematic, students emphasized that **vocabulary expansion** was one of the major effects; many students found that feedback from the chatbot introduced to them new lexical items and expressions that helped them formulate more precise and contextually fitting responses (Nation, 2001). Moreover, the experience of the chatbot fostered **goal-oriented** behaviour, as the students reported that they **set specific linguistic goals**, e.g. aim to improve the fluency, or to enlarge the vocabulary, which is consistent with the notion of self-directed learning. The centrality of these codes indicates that planning strategies were frequently activated during chatbot interactions. The findings suggest that AI chatbot interaction supported learners' ability to plan spoken responses more deliberately by fostering lexical preparation and structured goal setting.

Planning Thematic Analysis

Vocabulary Expansion: *«Practicing with the chatbot improved my use of vocabulary and words in general»; «The chatbot gave me new vocabulary and ways to express myself better»; «It gave me tips such as vocabulary and syntax recommendations»*

Goal Orientation: *«I now focus on precision and rich vocabulary»; «I started setting small, measurable goals»; «I began aiming to be a better English speaker»*

Confidence and Clarity: *«Helped me explain my ideas clearly without rushing»; «It deepened my thinking and made me confident»; «I became more confident in expressing ideas naturally»*

Extended Vocabulary Use: *«I expanded my vocabulary and responded more fluently»;* *«The chatbot helped me connect and lengthen my ideas»;* *«It provided useful vocabulary for handling long discussions»*

Motivation for Improvement: *«It motivated me to set both daily and long-term goals»;* *«The chatbot influenced me to practice more and improve my speaking»;* *«I set even higher goals to improve my speaking for a better future»*

Monitoring. This dimension was positively impacted by chatbot interaction according to Figure 7. The importance of providing **structural guidance** as well as immediate feedback was highlighted by students because **it enabled them to organize their thoughts more effectively** and also to assess their performance in real time. Formative feedback is seen to help learners **self-monitor** through being able to identify mistakes and **make adjustments** in time (Hyland, 2003). This was consistent with the fact that students mentioned being more **aware of** the grammatical **accuracy** and **coherence**, as a result they produced more coherent sentences as well as a logical progression in their spoken output (Ellis, 2009). The prominence of these codes suggests that students perceived monitoring as an active and ongoing process during chatbot use. Data indicate that chatbot-mediated feedback played a key role in enhancing learners' capacity to monitor comprehension, accuracy, and conversational flow while speaking.

Structural Guidance: *«I now follow a certain structure to answer the best»;* *«The chatbot interaction helped me organize my thoughts by showing, comparing, and discussing different photos»;* *«It taught me to prioritize ideas instead of giving vague answers»*

Feedback for Clarity: *«The continuous feedback helped me read my answers and correct them»;* *«It gave me advice before and after answering, helping me organize my thoughts»;* *«I was able to analyze what I said and restructure my ideas»*

Self-Evaluation: *«It helped me identify mistakes and correct them»;* *«I analyze what I say and make adjustments»;* *«I am more critical and focused on details»*

Feedback Utilization: *«I can evaluate myself using the chatbot's feedback»;* *«The chatbot's corrections helped me adjust my speaking in real time»;* *«Feedback helped me improve my performance faster»*

Detail Awareness: *«Now I am aware to add well-structured ideas»;* *«I learned to add relevant details and use transition phrases»;* *«I became more aware of how much detail I provided»*

Regulation. The chatbot interaction appeared most transformative in the final component of regulation. Students reported adopting learned **adaptive communication** strategies, for instance, rephrasing to avoid breakdowns, and using fillers to increase **fluency of conversation**. Adaptive approaches conform well with strategic competence frameworks emphasizing compensatory strategies for managing the communication gaps (Dörnyei & Scott, 1997). These regulatory behaviors were reinforced by the chatbot's capacity to provide prompts and solutions at moments of hesitation (Goh & Burns, 2012) to bolster their resilience to conversational challenges. The frequency of these codes indicates that learners perceived chatbot interaction as particularly influential in supporting autonomous speech adjustment. Findings showcase that chatbot interaction encouraged learners to actively regulate their spoken output through repair, adaptation, and strategic self-correction.

Self-Correction: *«I corrected my ideas when the chatbot misunderstood me»;* *«I rephrased and clarified my ideas during breakdowns»;* *«I fixed vocabulary mistakes in a history presentation»*

Adaptive Communication: *«I used new expressions to buy time when stuck»;* *«I found alternative ways to express my thoughts»;* *«I explained and corrected errors with more confidence»*

Prompt Support: *«It provided me prompts and alternative expressions»;* *«I asked for examples when I ran out of ideas»;* *«It suggested ideas when I was stuck»*

Expansion Techniques: «Helped me take up previous ideas and add details»; «Gave me solutions to keep the conversation engaging»; «Provided solutions and ideas for real-life conversations»

Conversation Management: «I found it easier to maintain a conversation by adding questions»; «After feedback, my conversation sounds more natural»; «I know that a good interaction is important during the test»

Elaborated by the author

The findings point towards chatbot assisted practice as helpful to improve strategic competence, nevertheless, some limitations were found. Many students even revealed that the chatbot helped to plan and monitor, but at times gave unhelpful, generic feedback and thus had to be clarified further. Such practice is consistent with studies that show the need for personalized scaffolding in technology assisted language learning. In addition, the students raised the issue of over reliance on the support of AI and emphasized the need for balancing interaction with AI with peer and teacher feedback in order to build overall communicative competence (Warschauer, 2004). Therefore, it appears that AI chatbot interaction helped B1 level students to develop their strategic competence, which is, namely, to enhance their planning, monitoring and regulation abilities (see Table 21). This resonates with existing literature on the efficiency of interactive media in serving the purpose of autonomous learning and strategic language use (Benson, 2011).

The comparison of the three thematic clusters demonstrates that there is a progressive pattern in the perceptions of the learners. Whilst planning strategies can be related to preparation and goal setting, and monitoring strategies with real-time awareness and adjustment, regulatory strategies seem to be a higher level of strategic control; as a matter of fact, the most common type of strategies that students focus on are regulatory aspects, which presupposes that chatbot interaction can be very effective in aiding autonomous and real-time management of verbal communication. This progression across themes reinforces the view that AI chatbot interaction not only supports discrete strategic skills but also facilitates their integration during authentic communicative performance.

Initial open coding (presented in Table 6) identified recurrent patterns in students' responses, which were subsequently grouped and merged based on semantic similarity, functional overlap, and alignment with the three predefined dimensions of strategic competence: planning, monitoring, and regulation. Codes in which there was recurrence in response within different answers were validated through frequency of use and conceptual consistency. This was done to make sure that every final code was a measurable and significant indicator of the strategic involvement of the learners in the interaction with the AI chatbots without any repetition and maintaining the clarity of the analysis.

Table 6. *Code Categorization*

Planning	Monitoring	Regulation
Vocabulary Expansion	Structural Guidance	Self-Correction
Goal Orientation	Feedback for Clarity	Adaptive Communication
Motivation for Improvement	Self-Evaluation	Prompt Support
Extended Vocabulary Use	Feedback Utilization	Expansion Techniques
Confidence and Clarity	Detail Awareness	Conversation Management
Vocabulary Expansion	Structural Guidance	Self-Correction

Elaborated by the author

FINDINGS

The aim of this research study was to investigate the contribution of AI chatbot interaction to improve the strategic competence of B1-level EFL learners at Colegio Bilingue Marie Clarac. This objective was realized through the applications of several instruments, including pretest and posttest assessments, a Likert-scale survey, and qualitative interviews. The data analysis clearly showed that the intervention met the research objectives and demonstrated a notable impact on students' strategic competence. Overall, data analysis revealed significant gains in learners' strategic competence following AI chatbot interaction.

RQ #1. The first research question aimed to identify particular gaps in the strategic competence of B1 EFL learners at the institution. The review of the available pre-test data ($n=10$) demonstrated that there are evident weaknesses in the three aspects of strategic competence planning, monitoring, and regulation. The average pre-test scores show that regulation was the most problematic area of the learners ($M_0 = 3.35$), then comes planning ($M_0 = 3.65$) and monitoring ($M_0 = 3.65$). The students had difficulties in setting clear learning goals in the use of the language, in gathering adequate information for speaking tasks, and in maintaining the flow of oral conversation. Another big gap was insufficient self-regulation, which involved problems in rephrasing or asking for clarification during breakdowns in communication. Results were inferred and based on pretest data in which students were very challenged when planning their speech and managing communication.

RQ #2. The second research question answered the extent by which AI chatbots intervention would impact increase the students' strategic competence. Results from the posttest indicate that significant improvement across the three areas of strategic competence-planning, monitoring, and regulation-was made by students. The data showed that students were better able to plan their reactions, maintain conversation flow, and regulate their speech after interaction with the chatbot. Using paired t-tests for statistical analysis, these developments were confirmed as significant and not due to random chance, given the low p-values: $M = 3.65$ to $M = 4.00$ ($p=.010$); $M = 3.65$ to $M = 4.10$ ($p=.004$) and $M = 3.35$ to $M = 3.85$ ($p=.0001$). These scores suggest that the learners were in a better position to plan the spoken responses, track the understanding and accuracy of the real time, and regulate their speech by using self-correction and repair methods.

RQ #3. The third research question intended to inquire about the students' perceptions of the effects of the AI chatbot on their strategic competence. The qualitative analysis resulting from interviews showed that, according to the students, the chatbot was very effective in organizing their minds as far as their vocabulary is concerned. Many of the students also reported that the chatbot helped them to set a goal in their speaking improvement such as targeting fluency and grammatical accuracy. Besides, they found that the chatbot could provide feedback and adapt according to their needs, which assisted them in monitoring their speech and self-correction when necessary. However, some of them mentioned that feedback is generic sometimes and suggested that they should be given more personalized support to enhance their experience further.

The intervention generalized its purpose towards enhancing participant strategic competence by successfully meeting the proposed objectives. Through merging AI-mediated interactions with the task-based language teaching format students obtained individualized feedback for speaking practice of authentic tasks. Through both planning and monitoring speech activities participants developed capable self-regulation tactics. Strategic competence development in language learners became possible significantly because of the chatbot's structured tasks along with adaptive guidance and feedback process.

Ultimately, the proposal demonstrated the feasibility and relevance of using AI chatbots as an innovative tool in language learning. The results confirm that AI chatbots can serve as a valuable resource for EFL learners, offering a scalable and personalized solution to improve speaking skills. The findings suggest that future research could further explore how AI chatbots can be optimized to provide even more targeted support, particularly in addressing specific gaps identified during this study. The integration of AI in language learning not only enhances students' strategic competence but also contributes to the broader goal of fostering autonomous learners who can effectively manage their language development. The quantitative gains and qualitative perceptions demonstrate that AI chatbot interaction meaningfully enhanced learners' strategic competence while also revealing areas for refinement, which directly informs the discussion of pedagogical implications and limitations presented in the following section.

CONCLUSIONS

The use of AI chatbot interactions in language learning has enabled new directions to improve strategic competence in EFL learners. The purpose of this study has been to assess if AI chatbots are effective promoting planning, monitoring and regulating skills to B1 level students at Colegio Bilingüe Marie Clarac. The research analyzed data from pre and post-tests, surveys, and also interviews, utilising the findings to empirically prove that chatbot based interventions can help develop learner autonomy and communicative adaptability. The outcome of this study finds its fit into the ongoing discussions on AI-mediated language education and its pedagogical implications.

Results of this study suggest that AI chatbot interaction can play a major role in improving strategic competence of B1 EFL learners (from Colegio Bilingüe Marie Clarac). Evidence supports the effectiveness of chatbots through structuring, adapting, and simulating interactive conversations aimed at improving learners' planning, monitoring, and regulating abilities in their language use. Data from the pretest and posttest assessments, surveys, and interviews provided plenty of evidence to show that learners' strategic competence was positively influenced by the intervention. The mean improvements across the three dimensions of strategic competence—planning, monitoring, and regulation—indicate that AI chatbots serve as an effective supplementary tool in fostering communicative adaptability and autonomy among EFL learners.

Pedagogical and Theoretical Implications. This research makes a key contribution in that it systematically applies AI chatbot technology for language learning, based on a well-defined theoretical framework. Based on the principles of Focus, Adaptivity, and Dialogue Management for chatbot interactions between learners and the chatbot, this study shows how AI mediated interventions can scaffold learners' engagement with meaningful communicative practices. Structured conversation design has been important to this process because the chatbot is able to tailor feedback to the individual learning needs. Vygotsky (1978) theory of scaffolding agrees with this since learners are gradually taught communicative strategies that facilitate their ability to run conversations by themselves although with guidance. Based on the results in the planning dimension, we can conclude that chatbot interactions assist learners to establish communicative goals, gather necessary information for speech production and plan to achieve their goals efficiently.

CONTRIBUTOR ROLES

Carlos Díaz Ortiz: Conceptualization, research design, theoretical framework development, methodology, instrument design, data collection, quantitative and qualitative data analysis, interpretation of results, figure and table creation, original draft writing, review and editing, and final manuscript preparation.

Oswaldo González: Methodological consultation, support with statistical analysis, and revision of results.

Janneth Chumaña: Assistance with data collection and participation in the review of interview instruments.

Nelly Espinoza: Support in literature review compilation and minor manuscript revision.

ETHICAL IMPLICATIONS

The authors state that there are no ethical implications associated with this study. Participation was voluntary, informed consent was obtained from all participants, and data were handled confidentially.

CONFLICTS OF INTEREST

The authors declare that there are no financial or non-financial conflicts of interest that could have influenced the work presented.

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