MULTIDISCIPLINARY JOURNAL EPISTEMOLOGY OF THE SCIENCES

Volume 3, Issue 2
April–June 2026

Quarterly publication

CROSSREF PREFIX DOI: 10.71112

ISSN: 3061-7812, www.omniscens.com

Multidisciplinary Journal Epistemology of the Sciences

Volume 3, Issue 2
April–June 2026

Quarterly publication
Made in Mexico

The Multidisciplinary Journal Epistemology of the Sciences accepts submissions from any field of knowledge, promoting an inclusive platform for the discussion and analysis of epistemological foundations across various disciplines. The journal invites researchers and professionals from fields such as the natural sciences, social sciences, humanities, technology, and health sciences, among others, to contribute with original articles, reviews, case studies, and theoretical essays. With its multidisciplinary approach, it aims to foster dialogue and reflection on the methodologies, theories, and practices that underpin the advancement of scientific knowledge in all areas.

Contact: admin@omniscens.com

9773061781003

Legal Disclaimer

Multidisciplinary Journal Epistemology of the Sciences Vol. 3, Issue 2, April-June 2026, is a quarterly publication edited by Dr. Moises Ake Uc, C. 51 #221 between 16B and 16C, Mérida, Yucatán, Mexico, C.P. 97144, Tel. 9993556027, Web: https://www.omniscens.com, admin@omniscens.com. Responsible Editor: Dr. Moises Ake Uc. Rights Reservation No. 04-2024-121717181700-102, ISSN: 3061-7812, both granted by the Instituto Nacional del Derecho de Autor (INDAUTOR). Responsible for the last update of this issue: Dr. Moises Ake Uc, last modification date: April 1, 2026.

Multidisciplinary Journal Epistemology of the Sciences

Volume 3, Issue 2, 2026, April–June

DOI: https://doi.org/10.71112/xy8ca073

THE USE OF GEMINI IA TO ENHANCE THE ENGLISH LANGUAGE SPEAKING SKILL

EL USO DE GEMINI AI PARA MEJORAR LA DESTREZA DEL HABLA INGLESA

Miguel Angel Miguez Gordillo

Ecuador

DOI: https://doi.org/10.71112/xy8ca073

The use of Gemini IA to enhance the english language speaking skill

El uso de Gemini AI para mejorar la destreza del habla inglesa

Miguel Angel Miguez Gordillo[a,*]

soiyomiguel@gmail.com

https://orcid.org/0009-0002-2217-3706

[*]Autor de correspondencia: soiyomiguel@gmail.com, [a] ISU SUCRE, Ecuador

ABSTRACT

The integration of Artificial Intelligence (AI) into English as a Foreign Language (EFL) teaching represents a pedagogical paradigm shift. This research analyzes the influence of Gemini-AI on the development of speaking skills in 15 A2-level students at the Instituto Universitario Sucre. Using a qualitative approach with a descriptive scope, observation instruments were employed to assess student perceptions and the tool's technical impact. The theoretical framework is based on language acquisition through comprehensible input and simulated immersion environments. The results indicate that, after 30 days of intermittent use, participants increased their speaking performance by 10% compared to their baseline. The AI was identified as an effective scaffolding resource, immediately detecting gaps in vocabulary, grammar, and collocations. The main conclusion highlights that the non-punitive nature of the interaction with the AI functions as a "communicative warm-up" that significantly reduces language anxiety. The adoption of Gemini-AI is recommended as a robust and ethical educational resource capable of fostering effective knowledge transfer in contemporary educational settings.

Keywords: Artificial Intelligence; language teaching; speech; language anxiety; Gemini-AI; pedagogical scaffolding

DOI: https://doi.org/10.71112/xy8ca073

RESUMEN

La integración de la Inteligencia Artificial (IA) en la enseñanza del inglés como lengua extranjera (EFL) representa un cambio de paradigma pedagógico. Esta investigación analiza la influencia de Gemini-AI en el desarrollo de la producción oral (speaking) en 15 estudiantes de nivel A2 del Instituto Universitario Sucre. Bajo un enfoque cualitativo con alcance descriptivo, se emplearon instrumentos de observación para evaluar la percepción estudiantil y el impacto técnico de la herramienta. El marco teórico se fundamenta en la adquisición de lenguas mediante inputs comprensibles y entornos de inmersión simulada. Los resultados indican que, tras 30 días de uso intermitente, los participantes incrementaron su desempeño oral en un 10% respecto a la línea base. Se identificó que la IA actúa como un recurso de andamiaje (scaffolding) eficaz, detectando brechas en vocabulario, gramática y colocaciones de forma inmediata. La conclusión principal destaca que la naturaleza no punitiva de la interacción con la IA funciona como un "calentamiento comunicativo" que reduce significativamente la ansiedad lingüística. Se recomienda la adopción de Gemini-AI como un recurso didáctico sólido y ético, capaz de propiciar una transferencia de conocimiento efectiva en escenarios educativos contemporáneos.

Palabras clave: Inteligencia Artificial; enseñanza de lenguas; speaking; ansiedad lingüística; Gemini-AI; andamiaje pedagógico

Received: April 1, 2026 | Accepted: April 19, 2026 | published: April 20, 2026

DOI: https://doi.org/10.71112/xy8ca073

INTRODUCTION

Education has changed since its origin because it is its nature to be a changing process, it means to adapt, modify, evolve, according to the necessities of students and society. It makes gradual changes that appear to update methodologies, material, modality, instruments and processes, but also the human actors like teachers, students, and academic community evolve at the same time. Taking this reality into account, we have to implement new methodologies and techniques that adapt to the actual society (Benyo, 2020).

Nowadays, we live in a society that is more virtual and technological than before. As a result of this reality, we have to employ technology as one of our main academic tools, with the objective to be one of our main helpers to continue enhancing the education process. In this sense, Artificial Intelligence (AI) has emerged as a main actor in multiple fields, and education is no exception. AI refers to the development of computer systems that can perform tasks which require human intelligence, such as problem-solving, language understanding, and decision-making (Hernando Barrios-Tao, 2026). The evolution of IA has made meaningful changes in society. In the education environment, AI is revolutionizing traditional learning rooms by offering personalized learning experiences, automating administrative tasks, and providing intelligent tutoring systems. As classrooms become more digital and connected, the integration of AI presents both exciting opportunities and important challenges. AI has the power to transform the learning process because it can adapt to student necessities and offer them a personalized program or personalized guide to study, reinforcing the parts of a lesson that they most need and avoiding what they have already known, improving the monitoring of student performance (Alexandara Harry, 2023).

The integration of AI in language education has shifted from closed systems (CALLs) to open and generative models. Following Creswell, this study adopts a theoretical perspective where technology is not just a tool, but a socio-cognitive mediator (Benyo, 2020). As a result, that study sustains that Google Gemini represents the pinnacle of this evolution. Its multimodal

nature allows students not only to receive written input, but also to interact in a feedback loop of "linguistic safe environment". Booth (zammit 2009) points out in “The Craft of Research”, the validity of a scientific argument depends on evidence; in this context, Gemini provides dynamic data, information, and knowledge that adapts to the student's Zone of Proximal Development (ZPD), enabling speaking to evolve from rote repetition to creative production (Abbas Ali Rezaee, 2012).

English communicative competence is a cornerstone for EFL learners, as it facilitates the oral expression of complex thoughts and ideas through the precise integration of pronunciation, grammar, and lexical naturalness. However, a critical paradox exists at the Sucre Institute: despite years of formal instruction in primary and secondary education, students across various disciplines continue to exhibit significant deficiencies in fluency and confidence. This lack of proficiency is often exacerbated by limited opportunities for authentic immersion within the local context and the socioeconomic barriers to international travel, leading to a perceived lack of interest in the mandatory A1 and A2 levels. Notwithstanding these traditional hurdles, this study addresses this pedagogical gap by investigating the impact of Gemini-AI input on the development of listening and speaking skills. Specifically, the research evaluates: (1) the efficacy of Gemini-generated texts in promoting the noticing of vocabulary, collocations, and formulaic phrases; and (2) the correlation between this initial linguistic noticing and the subsequent advancement of daily communicative fluency among foreign language students.

This study focuses on the strong demand and need to transform language teaching in technical institutes through the use of disruptive tools. Theoretically, it explores how the use of Gemini-AI fosters the conscious perception of grammatical and lexical structures in beginner students (Miftakul Rokhman Purnama, 2025). In practice, the research introduces an accessible methodology that compensates for the lack of contact with native speakers in the local environment, unlocking academic progress at the basic level of the Instituto Sucre. The

methodological value lies in the validation of prompts designed to optimize speaking and listening skills, linking cutting-edge technology with the goals of the international curriculum.

This work is based on the multiple studies based on the AI implementation and the strong demand to use new technological tools such as the "Generative Artificial Intelligence tools" to provide simulated immersion environments that reduce linguistic anxiety and offer highly personalized input. To comprehend this phenomenal, this research has been organized in different sections with the purpose to reach the research objectives of Gemini use in language learning and its future applications.

DEVELOPMENT

ARTIFICIAL INTELLIGENCE IN LANGUAGE EDUCATION: FROM CALL TO GENERATIVE AI

The integration of technology in language learning is not a new phenomenon. For decades, the field of Computer-Assisted Language Learning (CALL) has evolved in response to new technological tools and the changing needs of learners. Initially, CALL systems were primarily behaviorist, focused on repetitive grammar drills, vocabulary memorization, and automated correction. These early systems were limited in interaction and failed to represent the communicative nature of real language use. As digital environments progressed, CALL shifted toward communicative approaches, supporting interaction, meaningful tasks, and learner-centered environments (Benyo, 2020). However, even advanced digital learning tools had a fundamental limitation: they could not fully simulate authentic conversation, especially in contexts where learners had minimal exposure to native speakers or real immersion opportunities. This limitation is especially evident in EFL environments such as technical institutes, where students often have restricted contact with English beyond the classroom (Guendouz, 2025).

The emergence of Generative Artificial Intelligence, particularly Large Language Models (LLMs) such as Google Gemini, represents a new phase in the evolution of CALL. Unlike rule-

based systems, LLMs generate language dynamically and respond to learners with near-human fluency (Omar Mahmoud ELSenbawy, 2025). This is pedagogically significant because speaking is not simply a matter of recalling grammar rules; speaking requires real-time processing, vocabulary selection, coherence, confidence, and interactional competence (Guendouz, 2025).

In this sense, Gemini is not merely a digital tool that "provides information." Instead, it functions as a language environment: a space where learners can engage in interaction, produce output, receive feedback, and repeat communicative attempts without the social pressure of human evaluation (Guendouz, 2025). This is particularly relevant for beginner-level learners (A1–A2), whose communicative anxiety and limited linguistic resources often prevent them from practicing speaking consistently. Therefore, the theoretical foundation of this research is anchored in the view that Generative AI is not simply an external aid. It is a mediating technology that reshapes the conditions of learning by providing continuous input, scaffolding output, and supporting the learner's emotional readiness for communication (Miftakul Rokhman Purnama, 2025).

SOCIO-CONSTRUCTIVISM AND AI AS A MEDIATOR OF LEARNING

A key theoretical lens for understanding AI in education is socio constructivism, which argues that learning occurs through interaction, social engagement, and meaning-making rather than passive reception of information. From this perspective, knowledge is constructed through dialogue, feedback, and negotiation of meaning. In language learning, this becomes even more relevant because language itself is inherently social (Katikela Kishore, 2024).

Traditional language classrooms, particularly in EFL contexts, face structural limitations:

- Large groups limit individual speaking time
- Teachers cannot provide constant individualized feedback
- Students fear judgment, especially at beginner levels
- Interaction opportunities are scarce outside class

Socio-constructivist theory emphasizes that learners progress when they engage in guided interaction with more capable partners. This is strongly connected to Vygotsky's Zone of Proximal Development (ZPD). The ZPD refers to the gap between what a learner can do independently and what they can do with assistance. In language learning, this assistance often takes the form of scaffolding: correction, modeling, paraphrasing, vocabulary suggestions, and strategic support (Abbas Ali Rezaee, 2012).

In traditional classrooms, teachers provide scaffolding, but their time is limited. Gemini can function as a simulated "more capable peer", offering real-time support that helps learners operate within their ZPD. For example, when a student attempts to describe a routine, Gemini can:

• reformulate incorrect sentences

• suggest more natural collocations

• provide vocabulary alternatives

• ask follow-up questions to maintain interaction

This interaction creates a dynamic feedback loop. The learner produces language, receives scaffolding, modifies output, and gradually internalizes more accurate and fluent forms. In socio-constructivist terms, Gemini becomes a mediator of learning, enabling interaction that would otherwise be inaccessible in resource-limited environments (Hasanein, Sobaih, & Elshaer, 2024). However, it is essential to clarify that Gemini does not replace the teacher's role as mediator. Instead, it extends mediation beyond classroom time. The teacher remains responsible for designing tasks, ensuring alignment with learning outcomes, and guiding students toward critical and ethical use. Thus, socio-constructivism supports the central argument of this study: that Gemini can provide structured, interactive, and scaffolded practice, which promotes the development of speaking skills through guided meaning making (Miftakul Rokhman Purnama, 2025).

DOI: https://doi.org/10.71112/xy8ca073

INPUT, NOTICING, AND THE DEVELOPMENT OF COMMUNICATIVE COMPETENCE

One of the most influential bodies of theory in Second Language Acquisition (SLA) concerns the role of input and the mechanisms through which learners transform input into acquisition. A foundational concept is comprehensible input, which refers to language that learners can understand while being slightly above their current level. Yet, research has consistently shown that input alone is not enough (Krashen, 2020).

Learners must also develop the ability to consciously detect language features. This is explained by the Noticing Hypothesis, which states that learners must notice vocabulary, grammar patterns, and functional expressions in order to internalize them (Fitria, 2025). In beginner-level EFL contexts, students often fail to notice key structures because:

• classroom exposure is limited

• instruction is often textbook-centered

• learners lack repeated interaction with authentic language

• feedback is delayed or insufficient

Gemini strengthens the noticing process in several ways:

a) Salience and repetition

Gemini can highlight vocabulary, connectors, collocations, and formulas repeatedly in conversation. This repetition increases salience and helps learners recognize patterns (Eko S, 2025).

b) Contextualized learning

Unlike traditional exercises, Gemini provides language in context. For example, phrases such as: “As far as I’m concerned”, “In my opinion”, “The main reason is” appear naturally within a communicative situation. This strengthens functional competence.

DOI: https://doi.org/10.71112/xy8ca073

LEARNER CONTROL

Students can ask for explanations, synonyms, simpler versions, or more advanced versions. This transforms passive input into active engagement. This noticing process is critical for developing communicative competence (M. Rashtchi, 2018).

According to the CEFR framework, speaking competence includes: fluency and coherence, lexical range, grammatical accuracy, interactional strategies. Gemini contributes to all these areas by providing a consistent and adaptive conversational environment. It supports learners in moving from isolated grammar knowledge toward real communication. In short, Gemini serves as a tool that enhances noticing, which supports the transformation of input into intake, and eventually into communicative output (Miew Luan Ng, 2025).

OUTPUT, INTERACTION, AND FLUENCY DEVELOPMENT

Another key principle in SLA is that language learning requires not only input but also output. The Output Hypothesis argues that learners develop competence when they are forced to produce language and realize gaps in their knowledge. Speaking is not simply a demonstration of what learners know; speaking is a mechanism through which they learn (Swain, 2005).

Gemini increases output opportunities dramatically. Instead of waiting for classroom speaking turns, learners can practice: daily routines, roleplays, interviews, debates, problem-solving dialogues (Purnama, 2025). This matters because fluency develops through repetition, automation, and reduced cognitive effort. Fluency requires learners to access vocabulary and structures quickly, without excessive mental struggle (Katikela Kishore, 2024). This process connects directly with Cognitive Load Theory, which explains how learning is affected by the limitations of working memory (Siti Nurul Azizah, 2025). When learners speak, they must simultaneously:

• plan ideas

• select vocabulary

• apply grammar

• monitor pronunciation

• maintain coherence

• manage anxiety

For beginners, this cognitive load is overwhelming. Gemini reduces cognitive load by providing:

• suggested structures

• corrected versions

• sentence models

• guided questions

When the cognitive load decreases, learners can focus more on coherence and fluency. Over time, repeated supported output becomes automated. This leads to measurable improvements in speaking performance. Thus, Gemini is not only a source of input. It is a tool that stimulates output, supports interaction, and contributes to fluency development through cognitive optimization (Rahman, 2025).

AFFECTIVE FILTER, ANXIETY, AND CONFIDENCE IN SPEAKING

Many EFL students experience: fear of mistakes, peer judgment, teacher evaluation, embarrassment, low self-confidence. This is explained by the Affective Filter Hypothesis, which proposes that anxiety blocks language acquisition. When learners feel threatened, their cognitive resources shift from language processing to self-protection (Wang, 2020). Gemini provides what can be described as a “safe-to-fail environment.” The AI does not judge, laugh, or punish. Learners can repeat attempts without shame. This reduces anxiety and increases willingness to communicate.

Confidence is not a minor variable. It is often the first condition for improvement. When learners feel safe, they speak more. When they speak more, they improve. This creates a

positive learning cycle (Novia, 2023). This theoretical point strongly supports your conclusion: Gemini optimizes both:

• cognitive mechanisms (noticing, output, automation)

• emotional mechanisms (confidence, reduced anxiety)

This synergy is precisely what makes AI tools valuable in speaking development.

ETHICAL AND PEDAGOGICAL CHALLENGES IN AI INTEGRATION

Despite its benefits, the integration of AI raises serious ethical and pedagogical concerns such as:

Hallucinations and misinformation: AI systems may generate incorrect grammar explanations or unnatural phrases. This requires teacher supervision and learner training in verification.

Overdependence: students may become passive and rely on AI instead of developing independent competence.

Privacy: speaking practice may involve voice, personal data, and sensitive information.

Academic integrity: AI can be used for shortcuts rather than learning. Therefore, the pedagogical framing is crucial: Gemini must be positioned as a practice partner, not a replacement for student performance. The teacher's role becomes central in ethical guidance and in designing tasks that promote learning rather than dependency (Miguez, 2025).

METODOLOGY

This research adopted a qualitative-interpretive approach with a cross-sectional design to evaluate the implementation of Artificial Intelligence (AI) at the Instituto Superior Sucre during the 2025-1st period. From a constructivist perspective, this study sought to understand the meanings individuals attribute to their experiences in virtual environments, prioritizing 'descriptive richness' and the exploration of complex phenomena such as social perceptions

and behaviors toward technology. To this end, theoretical methods such as analysis-synthesis approaches were employed, providing a conceptual foundation for the evolution of AI in education. These were complemented by empirical methods, including structured observation in Zoom (based on Tamayo's framework) and the application of surveys with online formularies. This methodological combination enabled the researcher to understand the influence of AI, particularly in language learning, by integrating narrative and descriptive data that contrasted student perceptions with actual classroom practices, thereby ensuring a comprehensive view of results (Bile, 2025).

The population was composed of 15 students of Sucre institute at a2 level who participated in the observation process from all programs at the Sucre Institute, including electromechanics, marketing, initial education, electronic, food procedures, audiovisual production, all of them technical careers. The entire population was contacted via online though zoom sessions, with responses from 15 students. This represents a convenience sample selected due to the accessibility and willingness of the participants. This sampling method is common in educational technology studies when seeking an initial representation of student perceptions (Bond, 2021).

Theoretical and analytical methods were employed to extract the scientific basis of the study, extracting and sharing it to develop the theoretical framework. This included the historical-logical method to analyze the evolution of AI in education and its growing expansion and influence, the systemic method to observe and understand the interactions between the components of virtual environments and their users, and the analysis-synthesis method to integrate the relevant literature. These theoretical methods were used exclusively to establish the conceptual framework of the study, following approaches established in educational research (Jhon W. Creswell, 2018)). Empirical methods included the application of a survey and structured observation of virtual classrooms on the Zoom platform.

TECHNIQUES AND INSTRUMENTS

A Google Forms survey with specific questions designed to achieve the objective of this study was created, following methodologies validated in educational technology research (Bond, 2021). The instrument included multiple-choice questions, ratings, and true/false statements, designed to assess student satisfaction and the use of AI tools for their activities in virtual environments. The form was validated through testing with external individuals and faculty, adjusting initial questions to improve clarity and precision—a standard procedure to ensure the instrument's reliability (Creswell & Creswell, 2018). The survey was distributed via Zoom to the 15 students, achieving a response rate of 93.3% (14 responses).

A structured observation was conducted in all active virtual classrooms on the Zoom platform, using a Microsoft Word form adapted from approaches described by Muijs et al. (2018) for virtual environments. This form recorded three key variables: the number of assigned activities, the instructor's modification of the template, and the number of resources used. These variables allowed for the evaluation of usability and activity levels in each classroom, identifying patterns in the adoption of AI tools. Access to the classrooms was granted using an authorized administrator account, ensuring a systematic and objective review of all active classrooms.

Survey data were analyzed using descriptive statistics, calculating frequency and percentages for multiple-choice, rating, and true/false responses, following standard practices in educational research (Creswell & Creswell, 2018). This approach allowed for the quantification of student satisfaction and the perceived use of AI tools. Observational data were processed using thematic analysis, following the guidelines of Xu and Zammit (2020), thematically coding the Word document records to identify patterns of use and integration of artificial intelligence in virtual environments adoption of AI tools in virtual classrooms. Thematic coding included categories such as activity level, AI integration, and content personalization, ensuring a rigorous interpretation of the qualitative data.

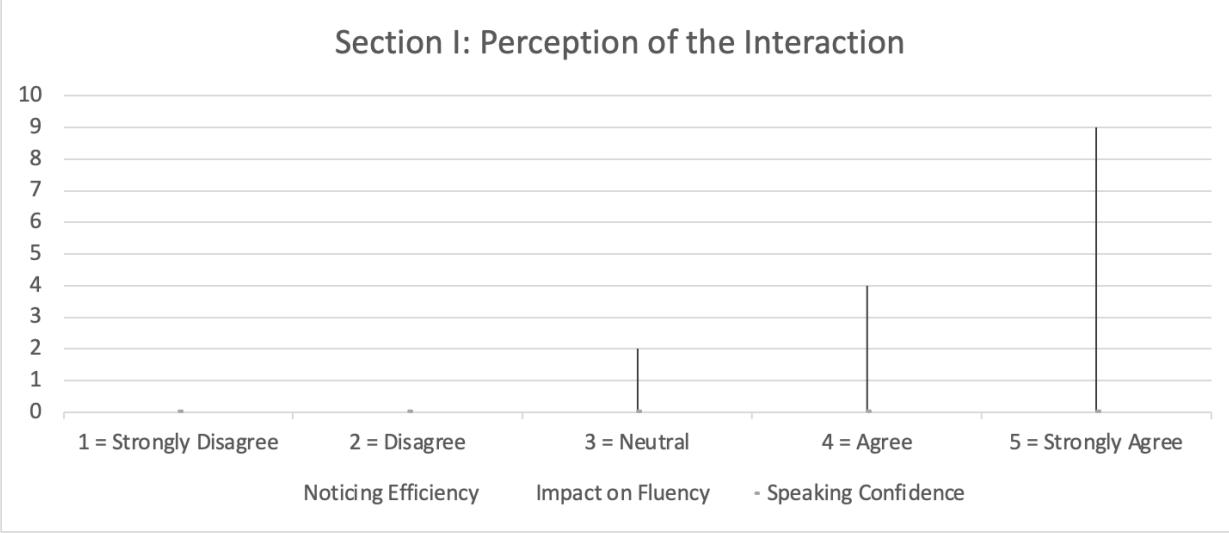
No conflicts of interest were identified in this study. The survey was anonymous, with no collection of personally identifiable information, and participants were informed that the survey was anonymous and complied with ethical research principles, the correspond consent was implied upon completion of the form.

RESULTS

To interpret the results and formulate de discussion, it was necessary to implement a survey with 3 sections and some questions in each one, a totally of 8 questions were implemented with a 5-point Likert scale is used. This instrument seeks to operationalize qualitative variables (perception, confidence, fluency) into quantitative data for subsequent statistical analysis. The first section shows:

Figure 1

Perception of the interaction



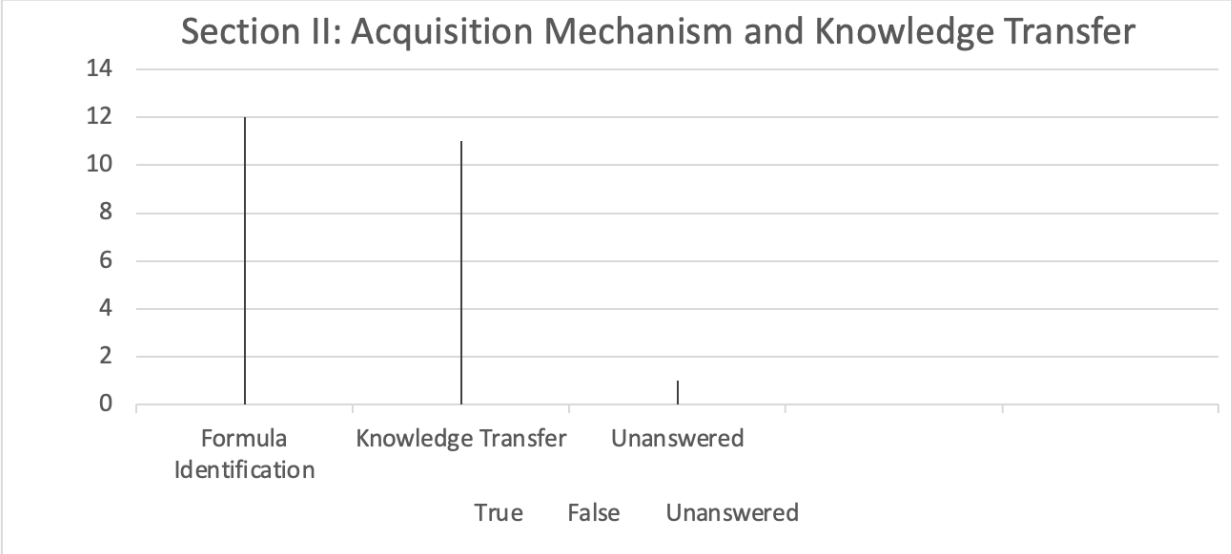
A big support from nine people who expressed acceptance and the rest who endorsed the premise, it is validated that students not only consume content but also detect gaps in their knowledge, solidifying Gemini as a highly accurate lexical tutor. This high score suggests that the AI model influences speech automation by providing recommended structures that reduce

cognitive load, allowing mental effort to shift from grammar to fluency (Fitria, 2025). Under Box's model, this implies a reduction in "noise" and variability, stabilizing oral production. Furthermore, when measuring "linguistic anxiety" under Sagan's concept of science as a beacon against fear, interaction with a non-punitive entity facilitates experimentation in a safe environment, leading to the conclusion that improved confidence precedes accuracy and positions Gemini as a critical tool for the communicative warm-up phase (Sagan, 2013). The data suggest that the integration of Gemini-AI into speaking practice generates a synergistic effect: while the AI provides the necessary technical input (Noticing), it simultaneously optimizes the emotional conditions (Confidence) so that the output is more fluid. However, according to Popper's logic, these perception results must be contrasted in a later phase with objective performance measurements (such as pre/post intervention recordings) to avoid social desirability bias in surveys (Nguyen Thi Phuong Nhung, Noticing Hypothesis in Second Language Acquisition, 2020).

Section II: Acquisition Mechanism and Knowledge Transfer

Figure 2

Acquisition mechanism and knowledge transfer

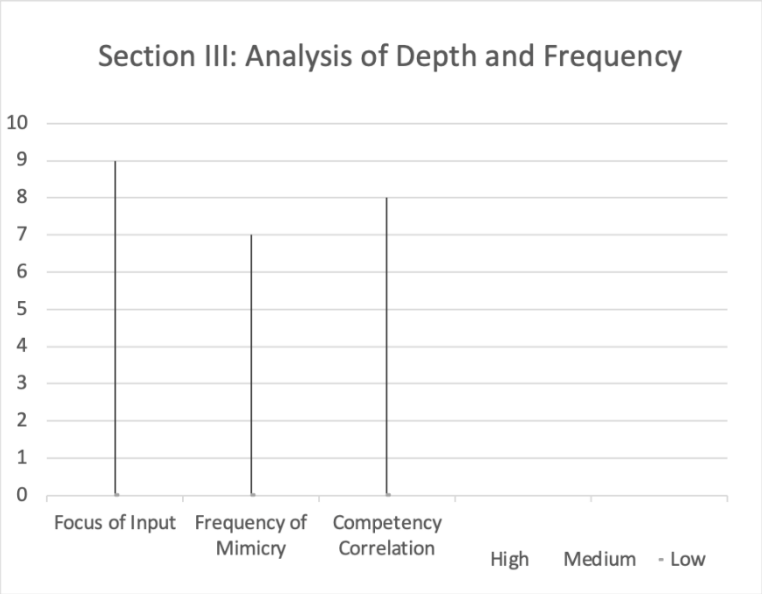


Section II confirms that the integration of Gemini-AI transcends mere subjective perception to become an engine for cognitive restructuring and proactive transfer (Bile, 2025). The technical analysis of Formula Identification demonstrates that the tool is highly effective for Input Enhancement, allowing students to break down language into functional units and map complex structures for deep learning. Under the standards of Ecological Validity, the reported use of these expressions in real-world contexts constitutes the "gold standard" of the research; this validates the practical utility of the AI, transforming it from a chat interface into an instructional resource with a tangible impact on communicative performance. Finally, applying Popper's falsification logic, the predominance of affirmative responses refutes the hypothesis of ineffectiveness, solidifying Gemini as a high-precision learning environment that meets the strictest criteria of internal and external validity in contemporary educational research (Collaguazo, 2025).

SECTION III: ANALYSIS OF DEPTH AND FREQUENCY

Figure 3

Analysis of depth and frequency



In this last section, it breaks down the depth of Gemini's technical impact, positioning it not merely as a superficial support but as a catalyst for linguistic complexity. By analyzing the Effectiveness of Generated Texts, it identifies whether the AI acts as a facilitator of discourse cohesion through connectives or as an essential corrective feedback mechanism to prevent linguistic fossilization, following the precepts of The Craft of Research. Likewise, measuring the Frequency of Noticing and Mimicry reveals the student's level of cognitive engagement; a high frequency in identifying natural phrases demonstrates the tool's ecological validity by bridging the gap between academic English and real-world, idiomatic usage (Chan, 2005). Finally, through a Competency Correlation, the AI is subjected to a contrastive test against traditional instruction; following Popper's logic, Gemini's superiority in modeling complex thought refutes the reductionist view of LLMs as mere grammar correctors, solidifying them as advanced instruments for higher cognitive development and effective transfer to everyday speech (Bubas, 2025).

It demonstrates that the integration of Gemini-AI is not merely a superficial support, but rather a catalyst for linguistic complexity. While traditional teaching often segments learning, Gemini offers a holistic model that allows students to identify logical connectives and natural expressions in real time.

Following Sagan's critical thinking, this data allows us to 'separate the wheat from the chaff': the true value of AI lies not only in correcting a word, but in providing models of complex thought that students can emulate, achieving effective transfer to their everyday speech. This finding is fundamental to recommending AI as a structural component in modern language curricula, under rigorous technical and ethical standards (Aguilar, 2023).

CONCLUSIONS

Integrating Gemini-AI into English teaching creates a "safe-to-fail" environment that reduces student anxiety and builds the confidence necessary for fluent speaking. Research

shows that AI acts as a high-accuracy tutor, helping students move beyond simple grammar to master complex phrases and natural communication in real-time. Because it provides immediate, personalized feedback that traditional classrooms often cannot, Gemini-AI is a powerful instructional resource for high-level language development and effective knowledge transfer (Rahmawati, 2023).

Therefore, the adoption of Gemini-AI is recommended not as a peripheral supplement, but as a robust instructional resource that achieves effective, proactive knowledge transfer, meeting the most rigorous technical and ethical standards of contemporary educational research (Collaguazo, 2025).

Declaration of conflict of interest

The author declares no conflict of interest related to this research.

Declaration of authorship contribution

Miguel Miguez Gordillo: research, writing – revision and editing, methodology and conceptualization.

Artificial intelligence usage statement

The author declares that artificial intelligence tools were used solely as technical support in the drafting, organization, and improvement of the linguistic style of this scientific article. These tools did not replace the author's intellectual, analytical, and critical work at any time. The manuscript was prepared in accordance with the principles of academic integrity.

REFERENCIES

Abbas Ali Rezaee, Z. A. (2012). The role of zone of proximal development in the students' learning of English adverbs. *Journal of Language Teaching and Research, 3*(1), 51–57. https://doi.org/10.4304/jltr.3.1.51-57

Aguilar. (2023). Want to try Google's new AI chatbot? Here's how to sign up for Bard. *CNET*. https://www.cnet.com/tech/services-and-software/want-to-try-googles-new-ai-chatbot-heres-how-to-sign-up-for-bard/

Alexandra Harry. (2023, marzo). Role of AI in education. *INJURITY: Journal of Interdisciplinary Studies, 2*(3), 2963–3397. https://doi.org/10.58631/injurity.v2i3.52

Benyo, A. (2020). CALL in English language teaching. *International Journal of Advanced Science and Technology*, 1390–1395.

Bile, A. (2025, octubre 10). Intelligent learning: AI's impact on early educational strategies. https://doi.org/10.1002/9781394352821.ch04

Bond. (2021). Schools and emergency remote education during the COVID-19 pandemic: A living rapid systematic review. *Asian Journal of Distance Education, 15*(2), 191–247. https://doi.org/10.5281/zenodo.4425683

Booth, W. C. (2009). *The craft of research* (Vol. 1). https://books.google.com.ec

Bubas, G. (2025). How ChatGPT and Gemini view the elements of communication competence of large language models: A pilot study. *arXiv*. https://doi.org/10.48550/arXiv.2511.02838

Cabrera, T. (2014, enero 30). El concepto y la visión del desarrollo como base para la evaluación de políticas públicas. *Revista Economía y Sociedad*, 20.

Chan, T. P. (2005). Effects of web-based concordancing instruction on EFL. *Computer Assisted Language Learning, 18*(3), 231–251. https://doi.org/10.1080/09588220500185769

Collaguazo, J. Z. (2025). The use of Gemini app to enhance oral communication in EFL classroom: A pedagogical innovation. *Revista Científica Multidisciplinar G-Nerando*, 2, 18–67. https://doi.org/10.60100/rcmg.v6i2.769

Creswell, J. W., & Creswell, J. D. (2018). *Research design*. https://books.google.com.ec

Eko S, W. (2025). Improving students' speaking and listening skills using Gemini AI application. https://eprints.untirta.ac.id/id/eprint/54533

Fitria, T. N. (2025). Revolutionizing English learning with AI: Insights from ChatGPT and Google Gemini. *International Journal of Computer and Information System, 6*(2). https://ijcis.net

Guendouz, S. (2025). The role of artificial intelligence in achieving fluency in oral expression classes. https://dspace.univ-ouargla.dz

Hasanein, A. M., Sobaih, A. E., & Elshaer, I. A. (2024). Examining Google Gemini's acceptance and usage in higher education. *Journal of Applied Learning & Teaching, 7*(2), 223–231. https://doi.org/10.3316/informit.T202509180001289139723800 8

Hernando Barrios-Tao, V., et al. (2026). Impact of artificial intelligence on educational actors (2015–2023). *Revista Colombiana de Ciencias Sociales, 16*(1), 240–276. https://doi.org/10.21501/22161201.4803

Katikela Kishore, R. S. (2024). Evaluating Telugu proficiency in large language models: A comparative analysis of ChatGPT and Gemini. *arXiv*. https://doi.org/10.48550/arXiv.2404.19369

Krashen, S. (2020). The optimal input hypothesis: Not all comprehensible input is of equal value. *CATESOL Newsletter, 5*(1), 1–2.

Long, M. H. (1983). Native speaker/non-native speaker conversation and the negotiation of comprehensible input. *Applied Linguistics, 4*(2), 126–141. https://doi.org/10.1093/applin/4.2.126

Míguez, M. (2025). La inteligencia artificial como recurso didáctico en el proceso de enseñanza y aprendizaje. *Revista Multidisciplinar Epistemología de las Ciencias, 2*(2), 181–196. https://doi.org/10.71112/vqb1zx28

Ng, M. L., et al. (2025). Grammar and engagement in focus: Evaluating Gemini AI's impact on an educational environment. *Computers and Education Open, 9*, 100302. https://doi.org/10.1016/j.caeo.2025.100302

Nguyen Thi Phuong Nhung, M. (2020). Noticing hypothesis in second language acquisition. *IOSR Journal of Humanities and Social Science, 25*(1), 26–30.

Novia, F. R. (2023). The correlation between students' self-confidence and speaking achievement. *Journal of English Education, 4*(1), 35–43. https://doi.org/10.52333/djoee.v4i1.62

Omar Mahmoud ElSenbawy, K. B. (2025). Use of generative large language models for patient education on common surgical conditions: A comparative analysis between ChatGPT and Google Gemini. *Updates in Surgery, 78*, 469–475. https://doi.org/10.1007/s13304-025-02074-8

Purnama, M. R. (2025). Applying Gemini to enhance EFL learning: A review of advantages and challenges. *Celtic: A Journal of Culture, English Language Teaching, Literature and Linguistics, 12*(2), 990–1004. https://doi.org/10.22219/celtic.v12i2.42739

Rahman, M. M. (2025). Reducing anxiety and enhancing motivation: Gemini AI voice chat for ESL. *Journal of Linguistics & Language Studies, 1*(2), 56–87.

Rahmawati, A. S. (2023). Improving speaking skills through TikTok application. *Journal of Languages and Language Teaching, 11*(1), 137. https://doi.org/10.33394/jollt.v11i1.6633

Rashtchi, M., & Ebrahimi, F. (2018). Learning the English passive voice: A comparative study on input flooding and input enhancement techniques. *International Linguistics Research, 1*(1), 67. https://doi.org/10.30560/ilr.v1n1p67

Sagan, D. (2013). *Cosmic apprentice: Dispatches from the edges of science*. https://books.google.com.ec

Siti Nurul Azizah, E. H. (2025). Gemini AI as a writing catalyst: Boosting fluency, coherence, and confidence in EFL composition. *Journal of English Education, 3*(2), 64–77. https://doi.org/10.61994/jee.v3i2.1134

Swain, M. (2005). The output hypothesis. https://www.taylorfrancis.com

Wang, L. (2020). Application of affective filter hypothesis in junior English vocabulary teaching. *Journal of Language Teaching and Research, 11*(6), 983–987. http://dx.doi.org/10.17507/jltr.1106.16

Zammit. (2020). The incubation period during the pandemic of COVID-19: A systematic review and meta-analysis. *Systematic Reviews, 10*, 101. https://doi.org/10.1186/s13643-021-01648-y