Primary Teachers' AI Perceptions at IE Avelino Saldarriaga Before and After a Professional Development Program on AI and PPP Lesson Framework in ELT

Case Study

Daniel de Jesús Garcés Davila

Manuela Moreno López

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Thesis, Research and Practicum Advisor

Mrs. Lina María Londoño, Mg in Education

Universidad de Antioquia

School of Languages

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Dedication

To our younger selves, whose sole dream was attending this university. We could not have imagined that this place would grant us not just an education, but the unexpected fortune of finding a home in each other. If these pages hold any light, it is a light we ignited together.

Our profound gratitude also goes by all means to our families, the architects of our dreams.

Daniel: To my grandmother, my second mother that is now in heaven, Marujita, I have kept my promise; to my father, who dreamed of an education not for himself but for his three children, and who can now, with rightful pride, say that his kids are all professionals; to my loving mother, whose faith never faded, whose resilience never wavered, the person who taught me to never surrender, not even in the face of the most terrible scenarios; and to my brother and sister, my pillars, whom I could always count on. To every single one of you. This achievement is yours.

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Abstract

Artificial Intelligence (AI) in the field of education needs to be embraced; it offers a promising opportunity that confronts the longstanding challenges in English as a Foreign Language (EFL) classroom instruction, particularly in underfunded public contexts. This case study at Institución Educativa Avelino Saldarriaga, Colombia, explored the perceptions of four primary school teachers around AI usage for EFL lesson planning. These teachers were experiencing serious barriers, which included evidently heavy workloads and zero confidence in their English proficiency. To address these concerns, a Professional Development Program (PDP) was constructed and taken to fruition, focused on integrating AI tools within the Presentation, Practice, and Production (PPP) framework for ELT instruction. To continue, a qualitative approach was adopted, combining online questionnaires, semi-structured interviews, and some post-intervention surveys to monitor and recollect shifts in these teachers' perceptions.

The results indicated that the PDP was critical in transitioning teacher perceptions from abstract expectations regarding AI as a reliever to a strategic tool for efficiency and pedagogical inclusion. More importantly, these teachers reinforced their role as the essential human filter and pedagogical adaptor, which they are and will be, conquering their initially formed fears of replacement and fatalistic thoughts. Overall, this inquiry noted a serious bottleneck effect, which remains perpetuated by infrastructural deficiencies, such as inadequate or nonexistent technological resources that significantly restrain the practical, long-term implementation of AI in these public schools.

Keywords: Artificial Intelligence, EFL, Teacher Perceptions, Professional Development Program, Lesson Planning.

Resumen

La Inteligencia Artificial (IA) en la educación necesita ser aprovechada; esta ofrece una prometedora oportunidad que confronta los retos de larga data en la instrucción del inglés (EFL), específicamente en contextos públicos desfinanciados. Este estudio en la Institución Educativa Avelino Saldarriaga en Colombia exploró las percepciones de cuatro profesoras de primaria en torno al uso de la IA para la planificación de lecciones de EFL. Estas profesoras estaban experimentando serias barreras, las cuales incluían cargas laborales pesadas y nula confianza en su competencia en inglés. Para encarar estas preocupaciones, un Programa de Desarrollo Profesional (PDP) fue diseñado y llevado a cabo, este centrado en la integración de IA dentro del marco de Presentación, Práctica y Producción (PPP) para la enseñanza de ELT. Continuando, se implementó un enfoque cualitativo combinando cuestionarios en línea, entrevistas semiestructuradas y algunas encuestas posteriores a la intervención para monitorear y recolectar datos sobre los cambios en sus percepciones.

Resultó que el PDP fue esencial para transicionar estas percepciones de expectativas abstractas sobre la IA como un alivio a una herramienta estratégica para la eficiencia y la inclusión pedagógica. Más importante aún, las profesoras reafirmaron su papel fundamental como el filtro humano indispensable y adaptador pedagógico, superando los miedos al reemplazo y los pensamientos fatalistas. Igualmente, la investigación señaló un grave efecto de cuello de botella, que se perpetúa por deficiencias estructurales, como recursos tecnológicos inadecuados o inexistentes, lo que restringe significativamente la implementación práctica y a largo plazo de la IA en instituciones públicas.

Palabras clave: Inteligencia Artificial, EFL, Percepciones de los Profesores, Programa de Desarrollo Profesional, Planeación de Clases.

Introduction

AI's new opportunities for personalized learning, operational efficiency, and content creation in general involved potentially harmful side effects as well. It is already revolutionizing the educational system worldwide, although the AI implementation remains unevenly distributed with prominent disparities in the developing nations. In Colombia, there is a significant gap between national policies advertising the digital transformation and the persistent infrastructural and institutional constraints limiting its integration.

To address this implementation deficit, this research draws specifically on the context of *Institución Educativa Avelino Saldarriaga* in Itagui, Antioquia, which resembles many other public regional and national public schools characterized by dedicated teaching professionals who endure structural limitations, heavy workloads, crowded groups, and a lack of formal training in English Language Teaching (ELT). Regarding the lesson planning process, it is a source of significant anxiety and time consumption for primary school teachers since they are required to teach English without having a specialized degree in the subject. Current literature suggests that generative AI acts as cognitive scaffolds to mitigate competence deficits in underfunded public contexts by assisting in the design of effective and level-appropriate lesson plans. However, AI usage depends not on mere access but on teachers possessing pedagogical knowledge for an ethical and effective implementation.

This intrinsic case study analyzes four primary school teachers' AI perceptions before and after participating in a targeted Professional Development Program (PDP) focused on lesson planning following Presentation, Practice, and Production (PPP) lesson framework to optimize their planning and boost their confidence in ELT. By tracking this transition, empirical data on how AI can be leveraged to support teachers in the public sector will be provided, while contributing to lessen the scarcity in literature concerning primary school teachers' perceptions of AI in ELT, especially within the under-researched public Latin American context.

1. Problem statement

1.1. Description of the Context

This institution is based in Itagui's Commune 1 with three sites: Central, La Unión, and Los Olivares, where roughly 1400 students from preschool to technical education arrive daily, offering three shifts: morning, afternoon, and evening. The initial primary school where we started our practicum is in La Unión where most students are from nearby areas, such as Santa María La Nueva, La Independencia, Los Olivares, Playa Rica, and other municipalities like Envigado and Sabaneta. Due to some renovation operations, this site was temporarily closed, and its population was welcomed at the Central site.

Each group is approximately 20 students, aged 7 to 10 years old, with a varied gender majority fluctuating between male and female depending on the classroom. Students receive roughly two hours of weekly English instruction. Despite the limited resources and time, both students and the institution maintain a positive attitude toward the language. The participants are four female teachers between the ages of 30 and 55 holding undergraduate degrees, specializations, and/or master's degrees. Despite their dedication, they had limited experience and confidence with English, difficulties in lesson planning due to time constraints, and special interest in AI-assisted activities introduced during our practicum.

1.2. Justification

AI's global impact on teaching methods has not been fully embraced in Colombia's underfunded public schools. In addition, many difficulties faced by teachers in this setting, such as lack of specialized English training, heavy workloads, and little time for class planning, AI-driven technologies provide a promising way for pedagogical effectiveness and raise the standard of training in light of these limitations. This project intends to follow the changes in these teachers' attitudes, confidence, and competence in terms of the ways in which AI is changing education by putting in place ethical and knowledge-based discussions mediated in four one-hour virtual training sessions.

The study's importance lies on being in line with Colombia's national education policy, which supports the digital transformation of schools and guarantees that instructors in public schools possess the necessary technology skills. Moreover, presenting real data on AI-assisted lesson preparation for EFL instruction by advising the participants dealing with comparable difficulties. Finally, it suggests a paradigm that can be replicated and scaled for integrating AI into teacher training programs in other public schools around the nation.

Beyond short-term gains, this research might impact long-term policy formation regarding digital literacy for teachers, establishing AI as a practical instrument for instruction in Colombia's public education system. This research promotes a more inventive, inclusive, and resource-efficient approach to EFL instruction by providing teachers with easily available AI-driven solutions, which hopefully will eventually help both students and teachers.

1.3. Research Question

What are the perceptions of four primary school teachers at IE Avelino Saldarriaga regarding the use of Artificial Intelligence (AI) for English Language Teaching (ELT) before and after participating in a Professional Development Program (PDP) centered on an AI and Presentation, Practice, and Production (PPP) lesson framework?

1.4. Objectives

1.4.1. General Objective

To analyze the perceptions of four primary school teachers at IE Avelino Saldarriaga regarding the use of AI in ELT, preview and follow their participation in a PDP course centered on the AI and PPP lesson framework.

1.4.2. Specific objectives

- To identify primary school teachers' initial perceptions toward AI and its application in ELT through an online questionnaire and semi-structured virtual recorded individual interviews.

- To design, facilitate, and execute a virtual PDP course, centered on the integration of AI tools within the PPP lesson framework for ELT lesson planning, designed in alignment with UNESCO's AI competency framework for teachers to acquire level objectives.
- To examine teachers' perceptions toward AI in ELT through a written post-intervention qualitative survey with open-ended questions.
- To identify teachers' final perceptions toward AI through semi-structured virtual recorded individual interviews, a recorded four-session PDP course, and a written post-intervention qualitative survey.

2. Theoretical Framework

Diverse concepts among perceptions, AI, PDP, PPP lesson framework, ELT, and UNESCO's AI competency framework for teachers will be defined and explained along with an overview of the vast research done worldwide in relation to teachers' perceptions of AI in ELT.

AI refers to computer systems mimicking human behavior (Aranvantinos et al., 2024), including learning and problem-solving (Triantafyllou, 2024, as cited by Almashrgy and Alburki, 2024; Tecuci, 2012 as cited by Li et al., 2024), and comprehension of human language. In particular, Generative AI (GenAI) uses Large Language Models (LLM) to produce code, music, movies, and images from texts (Espejo, 2024; Law, 2024), which has revolutionized every knowledge field.

Despite its numerous and unthinkable impacts until now, AI has been referred to as an "Alien Intelligence," since naming it as "alien" legitimizes the fact that AI can generate entirely new content and make decisions by itself (Harari, 2024). It has not been deciphered how AI outputs are created, leading to "AI hallucinations" which are inaccurate information presented as truthful during the user-AI interactions and are produced without clear communication objectives, epistemic aim, or belief systems (Shao, 2025).

Regarding AI's impact in education, it serves as an educational technology capable of real-time pattern identification and automated instructional decision-making meant to improve teaching

and learning (Díaz and Nussbaum, 2024, as cited by Castro et al., 2025). Despite its potential, it risks over-reliance, meaning users leaving critical thinking to AI. This peril was found in undergraduate and postgraduate students who showed an increase in reliance on AI that diminishes their confidence in writing and problem-solving (Chan & Hu, 2023). In spite of this broad welcoming, educational institutions adopting AI tools without adequate frameworks to protect students' data risk ethical violations regarding how student information can be harvested by commercial AI companies (Crompton, & Burke, 2023).

Concerning AI's influence in ELT, it allows personalization of language tasks, scenarios, and assessments by including and adapting standardized curriculum to the students' varied linguistic backgrounds (Dong et al., 2024) and acting as a personal instructor for EFL learners and brainstorming throughout the early stages of writing (Xiao & Zhi, 2023). However, AI prioritizes standard American and British English in its outputs and impedes students from developing their own style of expression in the target language due to over-reliance (Kohnke, et al., 2023). Besides, AI's effectiveness in EFL requires high-level "prompt engineering" skills hindering students with lower digital literacy or lower English proficiency from benefiting as much as advanced students, widening proficiency levels' gap rather than closing it (Mizumoto & Eguchi, 2023).

Additionally, most research about the use of ChatGPT in language education has been conducted in Asia and North America and in higher education settings, as shown by the systematic review of Li et al. (2024). For instance, Jeon and Lee (2023) investigated the usefulness of ChatGPT through qualitative analysis of the experiences of eleven South Korean language teachers who used ChatGPT for two weeks, identifying four critical roles for the AI (interlocutor, content provider, teaching assistant, and evaluator) and three emerging roles for teachers (organizing resources with quality pedagogical decisions, making students active investigators, and raising AI ethical awareness).

This tendency is confirmed in the use of conversational AI in ELT, since all the reviewed studies were from Asian ELT contexts, and half of them were conducted in higher education (Lai &

Lee, 2024). Regarding Latin American context, only Preciado and Pinargote (2025) conducted a systematic review on enhancing Latin American EFL learners' speaking skills via ChatGPT's conversational features; however, there was no mention of the educational background of the articles analyzed in their study. Their findings indicated that ChatGPT simulated human-like conversations, which reduced the stress associated with public speaking; however, it was found that there were structural limitations related to the insufficient teachers' AI training and persistent socioeconomic disparities.

In regard to the concept of perception, it is defined as a multidimensional cognitive and affective process through which individuals interpret, organize, and assign meaning to the world around them; this perception is shaped by thoughts, emotions, prior knowledge, and contextual factors, perception influences how individuals make sense of their experiences (Eysenck and Keane, 2020). In the context of primary school teachers' perspectives on AI, it encompasses both cognitive interpretations and emotional responses, shaped by their understandings, attitudes, and beliefs about the role of AI in education, and influenced by factors such as technological familiarity, ethical considerations, sociocultural context, and professional development opportunities (Ertmer and Ottenbreit-Leftwich, 2013; Fadel et al., 2019) in which they operate.

Therefore, some studies about EFL teachers' perceptions found that teachers express positive attitudes toward AI (Almashrgy and Alburki, 2024; Xin, 2024), highlighting benefits such as personalized learning, autonomy, instant feedback, and enhanced learning experiences (Law, 2024). For instance, three state schools Chinese EFL teachers considered AI, specifically ChatPDF, as effective and capable to provide a variety of concepts for learner-centered materials, as well as they remained skeptical due to AI's incapacity to comprehend multimodal information and AI's dependability (Xin, 2024). These nuances were also found in the perceptions of 11 Kazakhstan EFL teachers towards ChatGPT. They noted its ability to facilitate the creation of lesson plans, minimize effort, and increase student involvement, especially towards improving vocabulary and writing abilities, as well as the danger of students becoming more dependent on technology, academic

dishonesty, the need for exact rapid formulation, and restrictions on multimedia features (Dilzhan, 2024). Both Dilzhan (2024) and Xin (2024) also perceive that AI training for EFL teachers is needed for proper integration.

On the other hand, most research in primary school settings regarding only AI is focused on creating and putting into practice new AI technologies, with most of the research focused on Asia and covering a variety of topics like STEM, language, and mathematics (Aranvantinos et al., 2024). Focusing on teacher's perceptions, it was found that 55 elementary school teachers' perceptions from West Java regarding the implementation of AI in curriculum management under Indonesia's Independent Curriculum adopted AI strategies aligned with curriculum principles and analyzing student needs; however, limited technological literacy and inadequate infrastructure challenged this implementation, noting that sustained training, collaborative teacher working groups, and supportive policies were requirements for a proper AI adoption (Aliyyah and Amalia, 2025).

In relation to Latin America studies, Castro et al. (2025) conducted a research on how rural Chilean elementary teachers perceive the challenges and opportunities associated with incorporating AI in multigrade classrooms and Aguilar-Cruz and Salas-Pilco (2024) explored Colombian K-12 public school teachers' perceptions of AI, becoming the only data found about teacher's perceptions of AI. Therefore, there is a major scarcity in literature of primary school teachers' perceptions of AI in ELT.

Expanding on the study of Aguilar-Cruz and Salas-Pilco (2024), it highlights a complex landscape regarding Colombian teachers' perceptions of AI in education. While teachers demonstrate a clear recognition of AI's potential to enhance instructional practices, personalize learning, and reduce workload, these benefits are tempered by persistent barriers such as limited training, inadequate infrastructure, and ethical concerns related to student learning and equity through a complexity theory analysis that illustrates the challenges and opportunities of AI integration are not isolated but interconnected across macro-, meso-, and micro-level dimensions. This suggests that effective adoption of AI requires more than isolated interventions; systemic

strategies are needed to combine policy reform, institutional support, and teacher empowerment. Such insights reinforce the urgency of designing PDP initiatives tailored to teachers' real needs while also aligning with broader national goals of digital transformation and educational equity (Aguilar-Cruz and Salas-Pilco, 2024).

Notwithstanding that most Colombian primary school teachers have a low English proficiency level or do not have a degree in English Language Teaching (ELT), they required to teach the language without adequate preparation (Correa and González, 2016). This reality is not different from what can be seen in IE Avelino Saldarriaga, and cannot be changed rapidly; however, a PDP course focusing on facilitating EFL lesson planning is a way to alleviate this issue. Thus, PDP must be conceived of not as mere training focused on short-term skills, but as a commitment to teacher development, aimed at long-term, reflective growth in a teacher's understanding of their practice and professional identity (Richards and Farrell, 2005).

For instance, despite not being related with ELT, Maltese primary school teachers were positively impacted by the use of AI in the classroom through professional development model known as lesson study, and this inspired them to actively investigate its application as a way to improve students' educational experiences after their sense of agency increased (Calleja and Camilleri, 2025). This openness was also found in the opinions of twenty primary school teachers Ankara on using AI in education, as well as their awareness about lacking necessary knowledge, skills, and experience to use it effectively, some referring to it as a mere "computer program" (Mazı and Yıldırım, 2025). Becoming in-service teacher training a vital requirement for the long-term and successful integration of AI in the classroom (Mazı and Yıldırım, 2025). Finally, focusing on AI PDP in EFL, Chapelle et al. (2024) observed how EFL teachers from diverse contexts customize ChatGPT's outputs regarding reading and writing to fit specific learner proficiency levels and cultural contexts.

These PDPs for Colombian teachers and Colombian language teachers are needed, moving beyond initial formal training to facilitate sustained career growth (Richards and Farrell, 2005), since they are essential in a field where the knowledge base constantly evolves, and teachers are

positioned as active, lifelong learners of teaching (Freeman and Johnson, 1998). Effective PDPs adopt a sociocultural perspective (Johnson, 2009), recognizing that teacher learning is a dynamic process shaped by the specific social, cultural, and institutional contexts in which L2 teaching occurs (Freeman, 2009). Therefore, PDPs encompass diverse, contextualized strategies like action research, peer coaching, and reflective journal writing, which allow teachers to explore their practice and integrate new knowledge on their own terms (Richards and Farrell, 2005).

It is precisely to materialize this commitment for long-term and reflective professional growth that our research PDP was grounded on UNESCO AI CFT, which represents the first global reference framework that outlines the essential knowledge, skills, values, and attitudes teachers need to engage effectively and ethically with AI in education. Its purpose is to address the existing gap in national and institutional initiatives by offering guidance for the development of AI competency frameworks, training programs, and assessment benchmarks for teachers' professional learning. Structurally, the AI CFT is presented as a two-dimensional matrix consisting of five interconnected competency aspects: human-centered mindset, ethics of AI, AI foundations and applications, AI pedagogy, and AI for professional development, progressing across three scaffolded levels: acquire (basic literacy), deepen (intermediate integration), and create (advanced innovation and policy contribution), with the acquire level being the standard for designing our PDP.

This level aims to 1) Develop a critical awareness of the significance of human agency while assessing and utilizing AI tools; 2) Gain awareness of common ethical concerns pertaining to AI and human-AI interactions, such as advocating for inclusivity and environmental sustainability and protecting human rights, personal data, human agency, and linguistic and cultural diversity; 3) Learn the fundamentals of AI technology, including what it is, how AI models are trained, related information about data and algorithms, the main types of AI technologies and examples of each, and how to use validated AI tools; 4) Determine and take use of the pedagogical advantages of AI technologies to support lesson preparation, instruction, and evaluation for certain subjects while reducing the dangers; and 5) Investigate the use of AI technologies to improve their professional

growth and reflective practices, evaluate their learning requirements, and customize their learning routes.

Additionally, our research integrated a PPP lesson framework, which is a pedagogical model initiated to build learners' communicative abilities. It is described as a paradigm that is relatively easy to adopt and helps provide a clear and logical lesson structure (Nguyễn, 2024). The PPP approach is considered appropriate for low-level EFL learners. It is widely used in young EFL learners' classes specifically to teach grammar and vocabulary, as it facilitates the design of a well-organized lesson structure that allows young EFL learners to learn new language items logically (Ellis, 2018, as cited by Nguyễn, 2024).

Finally, Colombia's AI landscape has accomplished a "Differentiator" readiness level, which shows that a nation is actively using AI for certain advantages but still has to solve important issues in order to reach a more robust and advanced state of preparedness according to the *Artificial Intelligence Landscape Assessment (AILA)* by the United Nations Development Programme (UNDP) (PNUD, 2024). Among these issues are significant barriers of access to broadband and equipment, particularly in rural areas and among women, as well as bridge these digital accessibility gaps, promote advanced digital skills, and implement responsible AI governance to ensure that all Colombians can leverage the potential of AI for sustainable human development.

Focusing on Colombia's regulation about AI, the Política Nacional de Inteligencia Artificial (CONPES 4144 of 2025) positions AI as a transformative force capable of addressing pressing social, economic, and environmental challenges, including food security, poverty reduction, and the transition toward a knowledge-based economy. Building on the country's earlier recognition of AI as a driver of digital transformation through the Política Nacional para la Transformación Digital e Inteligencia Artificial (CONPES 3975 of 2019), the new policy advances a comprehensive framework for the research, development, adoption, and ethical utilization of AI systems. AI is not only conceptualized as a technological tool but also as a strategic element for national development, structured around six interdependent axes: ethics and governance, data and infrastructure,

research, development and innovation (I+D+i), digital talent and capacity building, risk management, and use and adoption. These axes collectively aim to ensure that AI is implemented responsibly, transparently, and sustainably, aligning its applications with national priorities, human rights, and social values. Ultimately, CONPES 4144 underscores the government's view of AI as a general-purpose technology whose ethical and strategic deployment can accelerate Colombia's path toward economic prosperity, social equity, and environmental sustainability.

However, there is a gap in the alignment of national AI strategies with broader educational goals, particularly those related to ELT and EFL. Despite AI being envisioned as a catalyst for innovation and productivity, its integration into EFL education could provide new opportunities for personalized learning, adaptive assessment, and equitable access to high-quality resources. Bridging this divide requires policy frameworks that not only recognize the economic value of AI, but also its potential to transform language education and strengthen Colombia's position within a global knowledge economy. Exploring this gap is essential, as lesson planning not only structures the teaching process, but also directly influences the quality of learning experiences for students. Understanding how teachers perceive and engage with AI in this domain could provide valuable insights into both the opportunities and limitations of integrating emerging technologies into EFL pedagogy. Furthermore, such research may inform the design of targeted professional development programs that equip teachers with the knowledge and confidence to adopt AI meaningfully, ensuring that technological innovation translates into pedagogical improvement.

3. Method

This research employs a case study method. Considering that "A case study is both a process of inquiry about the case and the product of that inquiry" (Stake, 2006, p. 8), this specific study encompasses an 'intrinsic' case study since the case itself is of primary and ongoing interest (Stake, 2006), which is the perceptions about AI among four primary school teachers from a public school in Colombia. These participants are:

Tabla 1

Demographic Information of the Study Group

Teachers	Gender	Age	Educational background	Teaching experience	Grade assigned	Used AI
T1	Female	25 to 34	Bachelor's degree	7 years	Second grade	Yes
T2	Female	45 to 54	Bachelor's degree	30 years	Second grade	Yes
T3	Female	45 to 54	Specialization	36 years	Third grade	No
T4	Female	35 to 44	Master's Degree	21 years	Third grade	Yes

3.1. Data Collection

Consent forms were provided to all participants before implementing data collection tools; among these were an online questionnaire, semi-structured virtual recorded individual interviews, four one-hour sessions of the PDP course, and a post-intervention qualitative survey, which were applied following this order. Each of these sources will be covered in depth in the paragraphs that follow:

3.1.1. Online questionnaire

An online questionnaire was administered to the participants during the first semester of 2025. It included multiple-choice questions to gather sociodemographic data and initial perspectives, two questions using a Likert scale format for measuring the frequency of some behaviors with response options ranging from "Always" to "Never," two other questions with a Likert scale format for measuring agreement with specific questions with response options ranging from "Totally agree" to "Totally disagree," and some open-ended questions to gather information about the primary teacher's perspectives on AI to provide a foundation for moving forward with the semi-structured virtual recorded individual interviews.

3.1.2. Semi-structured virtual recorded individual interviews

These interviews were made and conducted in Spanish, as it was the native language of all the participants during the first semester of 2025. Its purpose was to grasp the primary teachers' preliminary impressions of AI and EFL lesson planning for primary students before the PDP course (Appendix A).

3.1.3. Virtual PDP course

This PDP course called "PlanAI" was conducted during the second semester of 2025 and consisted of four one-hour sessions. It was based on UNESCO AI CFT acquired level objectives mentioned above, focusing on how to use AI to create PPP lesson planning for EFL with multiple practical and reflective activities. The participation was inconsistent from most participants due to time constraints; however, relevant information was gathered on the evolution of their perspectives after this PDP course.

3.1.4. Post-Intervention Qualitative Survey

It contained open-ended questions administered to participants immediately after the virtual PDP course. It sought to recollect and assess the participant's perceptions toward AI and PPP lesson planning for EFL following the PDP (Appendix 2) to contrast with their preliminary perceptions.

3.2. Data Analysis

Considering data analysis as the act of creating meaning by combining, condensing, and interpreting what others have said as well as what the researcher has seen and read (Merriam, 1998). The inductive content analysis (Merriam, 1998) was implemented for analyzing the data gathered by the data collection tools, where different themes emerged from the primary teacher's perceptions throughout their participation in this case study. The emergent codes were integrated into four core categories of convergence and divergence that can be examined to better understand the determining factors that drove these teachers from a conception of AI that was, in this light, somewhat abstract to a deeper understanding, demystification, and an ethical application of this pedagogical tool. Following an approach that moves from open to selective coding, its

methodological rigor was ensured by employing data triangulation between the diverse data collection tools, which are essential strategies for establishing credibility and trustworthiness in naturalistic inquiry (Lincoln and Guba, 1985). These categories were organized under headings in the case study results section.

4. Results

4.1. AI means Enhanced Efficiency and Teacher Support

It is currently undeniable that in terms of educational innovation, the applications of AI inside and outside the traditional classroom to automatize routine or monotonous tasks have become a central topic of interest for all teachers in this study. This categorization represents a strong initial convergence based on the potential of AI to mitigate the significant workload teachers face in the Colombian context. Beyond that, the following transition, which manifested as a divergence between the general perception of a helper and the practical application with measurable results, was also noted.

In the initial phase, all participants perceived AI as a practical solution and a relief, an important resource that drastically makes their lives easier by allowing them to optimize time by virtually "doing their job." According to T1 in the initial interview AI means “Una ayuda muy idónea porque ya nos minimiza el tiempo, ya prácticamente nos está haciendo como que el trabajo... entonces ya no tenemos que dedicar tantas horas a planear…” (Initial interview, T1, 10/03/2025) Along the same lines, T4 states after being asked about how she feels when she uses AI to plan her English lessons: “Me genera como un alivio porque... de una me muestra la ruta que puedo seguir." (Initial interview, T4, 12/03/2025)

It is a grim reality that the traditional role of teachers often forces them to live in function of their lives in the schools and neglect many other aspects of their lives. As it was mentioned by one of the participants: “Es una ayuda muy buena porque el tiempo de nosotros es muy limitado... estas plataformas nos ayudan mucho a optimizar ese tiempo… Ya nos queda un poco más de tiempo a nivel personal… porque la saturación para nosotros es bastante compleja.” (Initial interview, T1,

10/03/2025). Nevertheless, it appears that AI was already impacting their practice in a positive way before any intervention.

In addition, there was a shared expectation that AI would transform monotonous classes into more fun, interactive, diverse, and motivating experiences for students. Throughout the development program, the teachers' general perception of AI tools was consolidated by emphasizing its multiple uses, platforms, and applications for efficiency, as well as recognizing the importance of knowing how to properly communicate with these tools in order to get the results that they expect and the crucial nature of nurturing their capacity to produce varied and tailored prompts that align with their needs and contexts.

One of the most significant shifts was noticed in the post-intervention qualitative survey, where the degree of participation and commitment to the PDP marked a substantial difference in the depth in which their perceptions were impacted, as evidenced by the following facts. Starting with teachers with active involvement, for instance, in the case of T3 and T4, their perception of AI expanded from an initial idea of AI as a means of relief towards concrete ownership and quantification of its efficiency. For example, T3 reported a specific improvement, mentioning that AI reduced around 40% of the time that she regularly takes to prepare her classes and assess. Additionally, T3 shares openly her thoughts towards AI, stated in this manner: "Me siento muy tranquila utilizando la IA; además, siento que estoy abriendo nuevas expectativas y experiencias en mis prácticas pedagógicas." (Post-Intervention Qualitative Survey, T3, 14/10/2025)

In continuity, T4 also categorized AI as a quite interesting and useful tool to support her teaching. She reported that it simplifies certain work-related tasks and that she successfully integrated AI in her ELT lesson planning to improve participation and motivation, phrased as follows: "En la planeación sobre profesiones y oficios en inglés, integré la inteligencia artificial para hacer la clase más motivadora y participativa." (Post-Intervention Qualitative Survey, T4, 14/10/2025)

In contrast, T1, who displayed minimal involvement in the PDP, maintained a positive but general perception, describing AI tools with terms such as "creativity," "innovation," and "evolution,"

expressed in the following way: “Para mí, inteligencia artificial es innovación, evolución y sobre todo creatividad. En el ámbito educativo tiene sus pros y sus contras; que si se sabe estar en ese balance entre los dos, se obtiene un buen provecho en la educación. (Post-Intervention Qualitative Survey, T1, 14/10/2025)

However, T1 lacked a demonstration of a practical application, appropriation of the contents and tools, or a quantification of its efficiency in her experience in the middle and final stages of the program. For instance, in the post-intervention qualitative survey, she provides answers like “Yo la verdad implemento un prompt muy básico.” or “No sabría decir cómo crear la clase de inglés.” And also, “La verdad, me siento en el nivel básico. Debo de realizar la implementación de las IAs con más frecuencia y, sobre todo, trabajar en ellas para aprender más” (Post-Intervention Qualitative Survey, T1, 14/10/2025).

Following this reasoning, it is imperative to conclude that a strong dedication, in this case to a PDP, was essential for self-professional growth and for the effective implementation of AI in the classrooms.

4.2. Fear of Replacement and Cognitive Risk

Since the initial interview and especially during the progression of the PDP, this category displayed the greatest tension and divergence. The fear of becoming obsolete and the possible cognitive impact on teachers and students alike, defined by T4 as "mental laziness" and reinforced by T1 and T2, were key aspects that emerged as preconceptions and were newly addressed during the program's development. One example was stated as follows: “Yo siento que la inteligencia es también contraproducente... Porque ya los chicos hoy en día no quieren pensar… no quieren producir… son pegados de la inteligencia artificial.” (Initial interview, T4, 12/03/2025). And it continues to be evident throughout the program: “La IA no va a permitir que se fortalezcan, porque ya se los va a dar todo. Tenemos estudiantes con pereza mental; no quieren leer, no quieren tener una postura crítica.” (PDP course transcriptions, T4, 01/09/2025)

Continuing this argument, T2, before withdrawing from the project due to health and personal reasons, had already warned about the cognitive risk in students, fearing that AI would compromise their capacity for concentration and creativity: “Sin embargo, veo que hay un contra… a que los estudiantes no tengan la iniciativa, ni investiguen a fondo acerca de un tema, sino que se confíen de la inteligencia artificial y puedan hacer una copia exacta… disminuye la capacidad de concentración y creatividad.” (Initial interview, T2, 13/03/2025)

Regardless, as mentioned earlier, this is not exclusively a problem for the students. T1 expressed her concern in the following way: “Una contra puede ser que lo pone a uno… muy facilista en cuanto a no pensar, en cuanto a qué pereza hacerlo, entonces más fácil… que este me da casi todo” (Initial interview, T1, 10/03/2025).

Moreover, T4 and T1 expressed existential fear and a fatalistic standpoint regarding replacement, manifested clearly in the following statements: “Y yo sí me siento a veces como preocupada hasta dónde ha avanzado la tecnología... incluso bíblicamente nosotros seremos autodestruidos; nosotros mismos nos estamos destruyendo.” (PDP course transcriptions, T4, 13/08/2025)

T4 also predicted with concern that AI will replace not only her as a teacher but also take many other people's jobs. According to T4, their only chance was getting proper training in the implementation of AI: “Si nosotros no nos cualificamos, vamos a estar out… ¿Y nos va a reemplazar? Claro… si los maestros no lo sabemos manejar… ¿Cómo vamos a quedar? Obsoletos… nos lleva a nosotros a movilizarnos y a cualificarnos.” (PDP course transcriptions, T4, 13/08/2025)

T1, being among the younger teachers, felt even more worried and even criticized T3 for not feeling threatened, as can be interpreted in this quote: “Que va a tener miedo… si la T3 ya está más fuera que adentro. Miedo yo que apenas estoy empezando” (PDP course transcriptions, T1, 13/08/2025).

Despite the above, T3 maintained a largely neutral stance since the initial phase, focusing on AI as a mere tool that does not eliminate the teacher but rather demands their historic role as a

guide: “En nuestra labor de educadores somos orientadores. [Los estudiantes] pueden llegar al conocimiento a través de estas inteligencias, pero necesitan… esa guía siempre vamos a ser nosotros… Yo estoy es como neutral.” (PDP course transcriptions, T3, 13/08/2025)

It is therefore clear that contrasting the evidence gathered during the program and the data collected in the final questionnaire reveals a differentiated pattern in the teachers' perceptions. T1, on the one hand, experienced a less drastic shift in perspective, as cited in the previous category, moving from perceiving artificial intelligence as a considerable risk to interpreting it as a challenge that motivated her to constantly improve her skills and to adapt to the dynamic field of education. On the other hand, although T4 originally acknowledged the need for qualification regarding AI and other technologies, she maintained a critical bias concerning its impact on human thought.

Nevertheless, her appreciations in the final survey showed a greater range of reflection, adopting a less fatalistic yet persistently reflective perspective, in which she stated that to her, AI could be a valuable tool to support her teaching and to make certain tasks easier, while she expressed caution that its excessive dependence could impact the student’s diligence and the correct development of their academic skills, as evidenced in her full statement: “Me parece una herramienta útil para facilitar tareas educativas… Sin embargo su uso excesivo puede limitar el esfuerzo y el desarrollo de habilidades en los estudiantes. Aun así… me siento motivada a seguir explorando cómo usarla de forma responsable en la educación.” (Post-Intervention Qualitative Survey, T4, 14/10/2025)

4.3. Teacher’s Filter and Responsible Ethics

Conducting an analysis regarding this category requires examining the internal tensions and struggles exhibited by the transformation in the teacher’s perception of AI’s role in education, the responsibility for risk management, and the requirement for a human filter as an initial convergence. Beyond that, due to the training program and progressing into the implementation of concrete ethical measures and profound reflection on emerging dilemmas, such as Do No Harm, that were identified by the teachers, is where an important divergence was found. As mentioned in the

category above, the teachers acknowledged some punctual insecurities related to their future place in the classroom, especially the younger ones; regardless, eventually all of them agreed on the fact that AI could not fully replace their expertise, emotional and pedagogical guidance, or judgment.

In addition, all teachers, some of them directly and others in a less explicit way, agreed that the content generated by AI could not be used literally. Instead, it had to be reviewed, complemented, and adapted to the needs of a group or the circumstances of the teacher themselves. The essential nature of this filter was attributed to the possibility that AI-produced content might be incomplete or even the result of a not entirely truthful analysis. As early articulated by T2: “Me apoyo ahí, y a pesar de que esto me arroje una información, yo sigo documentándome porque de pronto no todo… puede ser verídico… utilizo también mi conocimiento y mi experiencia.” (Initial interview, T2, 13/03/2025)

In this instance, the PDP facilitated new developments in the ethical debate, shifting the focus from the simple veracity of information toward curricular responsibility and data management. In this process, T4 emerged as the most critical voice, questioning the ethical double standard of content reviewing by asking why topics like violence or discrimination should not be included in role-playing, given that school reality is often marked by marginalization and bullying: “¿Cómo darle la vuelta para que sea más bien solucionar a través del juego de roles esas violencias? … la verdad, en este momento tengo una dualidad… no sé cuál sería el ético y el no ético.” (PDP course transcriptions, T4, 01/09/2025)

Furthermore, T3 and T4 after the completion of the PDP evidenced that they had translated ethical principles into concrete safety practices. For instance, T3 reported avoiding the inclusion of students' personal information in her prompts. Additionally, T4 demonstrated a more advanced ethical application, sharing about how she was raising awareness among her students about the risks of algorithmic biases, privacy violations, and even introducing environmental responsibility into her AI-assisted planning: “Implementé medidas de reflexión con los niños sobre… la importancia de no compartir datos personales y de seleccionar contenidos apropiados para niños… los riesgos éticos,

como los sesgos o la violación de la privacidad; también, se hizo una sensibilización… explicando que el uso excesivo de la tecnología impacta el medio ambiente." (Post-Intervention Qualitative Survey, T4, 14/10/2025)

This panorama contrasts with the case of T1, whose involvement in the program was minimal and implementation was nonexistent in the final questionnaire. Her behavior in this middle and last stage occurred due to a combination of a difficult health-related situation with feeling overwhelmed and stressed about meeting all the requirements to finish the school year. T1 communicated this during private conversations at the practicum site and through text messages.

4.4. Contextual Barriers and Competence

Building on the previous categories, this final category reveals a transformation and correspondence between structural deficiencies, linguistic insecurities, and differentiated professional growth, entirely dependent on the level of engagement in the PDP. Primary school teachers in this school face severe contextual barriers that significantly inhibit the practical implementation of AI in their classrooms, primarily resulting from inadequate institutional technological infrastructure and severe workload saturation. Teachers report a critical scarcity of working and suitable technological devices; some available tools like XO tablets, which are in theory educational learning devices simplified and optimized for learning, games, e-books, and parental control tools designed specifically for young children, in this context were not put into proper use due to the fact that, as stated for T1, they were not in optimal conditions and remained as merely decorations: "Lastimosamente no tenemos el recurso para que cada uno tenga su propio computador… esas XO que hay en el salón son como ahí de adorno, porque no están en condiciones para que ellos las utilicen." (Initial interview, T1, 10/03/2025)

T3 also reported only having a poor-performing computer and a lack of functional computer labs: "Sin sala de sistemas... nos tenemos que enfocar en enseñarles a manejar las herramientas que ellos tienen, como el lápiz…la regla…el cortar, eso es tecnología… Bueno, un computador, el de las profesoras, y bien lentos." (Initial interview, T3, 10/03/2025)

This infrastructural deficit restricts student interaction with AI tools or technologically dependent activities, sometimes leading to stress and frustration when only a few students can participate in interactive activities. As perfectly evidenced by T4, who stated: “Permitió una clase más interactiva, creativa y significativa... pero es complejo… los niños no les permiten llevar el celular al colegio, entonces solo se realizó la actividad de prompts con unos cuantos y los demás observaron… lo que generó… ansiedad y frustración.” (Post-Intervention Qualitative Survey, T4, 14/10/2025)

Nevertheless, the results suggest a well-defined correlation between the improvement of their competence and active participation in the course. To exemplify this, T1’s low or partial participation in the PDP or poor content appropriation kept her at the basic level of competence, leading her to state that she would not even know how to prepare an English class, as previously quoted in the first category. In sharp contrast, T3, who attended every session synchronously, and T4, who accessed asynchronously, demonstrated their exposure and dedication to the contents of the program by surpassing the basic level and reporting challenges that went beyond linguistic insecurity or the contextual limitations by centering on skill refinement. For instance, they specifically reported difficulty in creating precise prompts in which they obtain better and more specialized responses, as reported by T4 in this manner: “Aunque he logrado buenos resultados al generar prompts, aún me resulta difícil crear comandos precisos para obtener respuestas más específicas.” (Post-Intervention Qualitative Survey, T4, 14/10/2025)

Furthermore, these two teachers displayed a strategic and complex application, using AI to create content that adheres to principles of Inclusion and Non-discrimination outlined in the UNESCO framework. They demonstrated this by adapting to particular pedagogical situations and creating visual support for students with special needs such as ADHD, autism, and dyslexia. Specifically, T4 reported the following:

> Adapté los materiales generados por IA simplificando el vocabulario y usando oraciones cortas con apoyo visual para facilitar la comprensión. Incorporé imágenes más claras, colores

> llamativos y actividades paso a paso para mantener la atención de niños con TDAH, autismo y dislexia, garantizando que todos pudieran participar y aprender de manera inclusiva y significativa. (Post-Intervention Qualitative Survey, T4, 14/10/2025)

On her part, T3 also specified this when asked for a concrete example of adaptation to her new experience implementing AI in her planning: “Se simplificaron vocablos complejos sugeridos por la IA… se redujo la extensión de los textos para favorecer la atención de estudiantes con TDAH. Se incorporaron pictogramas, apoyos visuales para estudiantes con dislexia y autismo leve, facilitando la comprensión lectora.” (Post-Intervention Qualitative Survey, T3, 14/10/2025)

These testimonies, analysis, and data collected reaffirm that active commitment to the PDP was essential to transition their perception of AI from a potential risk and general support to a strategic tool for efficiency and embracing pedagogical inclusion, regardless of the contextual technological limitations. This demonstrates that AI tools, when accompanied and socialized by a dedicated PDP, regardless of the format of attendance, provide a shift in teacher perceptions of AI from a possible risk to a catalyst for inclusive and efficient teaching, and at the same time reaffirm the teacher's role as a guide, filter, and pedagogical adaptor.

5. Discussion

The results of this study complement and confirm the current literature carried out in Colombia and throughout the world over the past ten years in a variety of education contexts. For instance, there was an overall positive attitude and acceptance towards the use of AI in teaching in this study, which aligned with Aguilar-Cruz and Salas-Pilco (2024), Almashrgy and Alburki (2024), Calleja and Camilleri (2025), Dilzhan, (2024), Law (2024), and Xin (2024).

Furthermore, the correlation between the use of AI for reducing workload is also prevalent in Aguilar-Cruz and Salas-Pilco (2024) and Castro et al. (2025). The findings of Aguilar-Cruz and Salas-Pilco (2024) showed Colombian public-school teachers considered AI assisted them with planning, evaluating, making information searches easier, offering instructional resources, saving time while doing administrative duties, and promoting students' personalized learning. Consequently, the

findings of Castro et al. (2025) exposed how Chilean rural teachers perceived AI as a chance to lighten their workload and make their teaching practice easier.

Despite the initial fear of being replaced in their jobs by AI shown by the participants before the implementation of the PDP course, there was a shift in some participants' perceptions towards the AI being a mere tool and their roles still being relevant. This finding diverges from the findings of Castro et al. (2025), since none of the rural teachers surveyed expressed concern about AI replacing their jobs. In addition, there is a consistent pattern between the study's perception of AI risking students' cognitive and academic abilities and Aguilar-Cruz and Salas-Pilco (2024), since Colombian teachers also voiced concerns that AI may hinder students' development of critical thinking and problem-solving skills. Globally, this finding is similar to Chan & Hu (2023) related to an overreliance on AI for any cognitive tasks.

Regarding ethical concerns, these were partly consistent with Aguilar-Cruz and Salas-Pilco (2024), Law (2024), and since these studies mentioned concern from teachers about data privacy (Aguilar-Cruz and Salas-Pilco, 2024; Castro et al., 2025; Law, 2024) and bias (Aguilar-Cruz and Salas-Pilco, 2024; Castro et al., 2025), since participants of this study also explored and reflected about it during the PDP course by becoming data curators, avoiding disclosing students' private information, and algorithmic biases. However, it also diverged from those studies, since this study considered regularizing AI for environmental responsibility. Moreover, another divergence was noted with those studies, since plagiarism (Aguilar-Cruz and Salas-Pilco, 2024; Castro et al., 2025) and dishonesty (Law, 2024) as other ethical concerns did not align with this study's results.

This study's results about the teacher's essential function as a "human filter" are in line with the study of Chapelle et al. (2024), since despite their diverse context, both identified that AI could not replace their pedagogical judgment. Moreover, teachers' perception about lacking knowledge and training to use AI was consistent in this study before the implementation of the PDP course; however, studies like Aranvantinos et al. (2024), Aguilar-Cruz and Salas-Pilco (2024), Castro et al. (2025), Mazı and Yıldırım (2025), and Preciado and Pinargote (2025) showed the continuous

perception and need for constant PDP in regard to AI (Dilzhan, 2024; Xin, 2024). Moreover, the constant inadequate and scarce educational context to implement AI were consistent in this study and Aliyyah and Amalia (2025), Castro et al. (2025), Preciado and Pinargote (2025), and PNUD (2024), which hinders the possibility of implementing these tools with their students in their teaching practices.

Despite the multiple benefits of AI for EFL in students' competences, as Almashrgy and Alburki (2024) and Law (2024) showed, this study cannot corroborate them since only two teachers (T2 and T4) were in charge of teaching EFL, and due to the lack of participation of two of them in the rest of the study, the discussion was not focused but expanded the AI implementation and PPP lesson framework to any other subject.

6. Conclusion

On a final note, this case study determines that the PDP is at least one of the effective channels required to turn high-level national policy ambitions, such as Colombia's efforts for digital transformation (CONPES 4144 of 2025), into practical classroom abilities. While the results achieved in this research confirmed these public teachers' considerable initial motivation to use AI tools for workload reduction, aligning with broader national and international literature, the PDP was essential in moving their perception from abstract hope to demonstrating real accomplishments.

Essentially, the implemented PDP also acted as the primary mechanism for redefining and expanding these teachers' roles in their classrooms, beyond linguistic barriers. It suggests that participants overcame the underlying fear of replacement by reaffirming their status as the inescapable human filter and pedagogical adaptor, which is needed for responsibly reviewing and contextualizing AI final products. This brief overview makes clear that effective AI implementation depends not simply on providing simple tools, but it relies on sustained and reflective professional growth that ultimately empowers teachers to claim ownership of this new technology that is advancing further every day.

However, the primary critical finding of this study is the frustrating and unmitigated bottleneck effect created by persistent infrastructural deficiencies, which can make the highly effective competence acquired by committed teachers substantially impractical. As it is consistent with the same challenges faced by rural teachers in other regional contexts, the Institución Educativa Avelino Saldarriaga presented a pressing scarcity of adequate technological tools, including non-functional or outdated devices described as decorative elements and a lack of dedicated and equipped computer labs for the students. This kind of context is prone to generate student and teacher anxiety and frustration because only a few are truly able to participate in interactive digital or AI-mediated activities. Therefore, this study serves as a critical mirror: high-level public policies supporting digital transformation and ELT improvement in Colombia are fundamentally held back until the structural and historical financial neglect of public schools is overcome.

7. Recommendations

AI's wide impact globally is transforming ELT. Therefore, this study contributes by expanding scarce literature in the South American and Colombian context about primary school teachers' perceptions towards AI, even more in ELT. To ensure the effectiveness of this study in case of its replication in another context, teachers' availability and commitment, as well as institutional support, are highly needed, since these can hinder the data collection process and results due to the professional exhaustion of the subjects. Furthermore, to deepen perspectives regarding ELT and EFL in relation to AI, prioritizing the participation of EFL teachers must be a requirement.

Moreover, the lack of computing resources and reliable internet connectivity in IE Avelino Saldarriaga and the Colombian public schools' context has postponed and affected the adoption of this tool for teachers not only for lesson planning but also as part of their pedagogical practices. Therefore, to ensure equitable AI adoption across the educational landscape, it is imperative that policymakers formulate explicit guidelines that integrate AI strategies with broader national educational goals, especially missing in Colombian EFL policies, as well as address the structural and historical financial neglect towards the public schools.

The length of PDP implemented had an impact on these teachers' perceptions; however, evidence on its long-term impact is still needed, since any PDP must transcend from this episodic technical instruction and evolve into continuous, contextually relevant programs for teachers. AI's PDPs must prioritize critical digital literacy, equipping teachers not merely to generate prompts and content, but to rigorously evaluate AI-generated lesson plans or any output for accuracy, cultural relevance, and ethical bias before implementation in their classrooms, as suggested by UNESCO IA competency framework. To operationalize this, institutional support is required and must provide formal support structures, such as remunerated time specifically dedicated to PDP and peer mentorship. This ensures that teachers can master these tools without professional exhaustion, an attempt for AI to continue aiding rather than becoming a burden.

Finally, it is imperative that future research employ longitudinal designs, specifically revisiting participants 6 to 12 months post-intervention, to analyze the long-term sustainability of AI adoption and determine if usage persists once the exposure is removed, as well as large-scale studies through the Technology Acceptance Model (TAM) to facilitate data recollection. Moreover, literature should consider moving from exploring teacher perspectives to measuring the direct impact of AI-planned lessons on student engagement and English proficiency. Scope expansion is critical, future research should broaden geographically to include diverse Latin American contexts and extend to under-researched educational levels like primary education. Furthermore, this study could be replicated within rural contexts or private institutions to consider socioeconomic variables, and further comparative analysis between these settings and the urban context of Itagui is essential to illustrate how socioeconomic gaps influence perspectives and integration of AI in these settings. Finally, research must adopt a multi-stakeholder perspective, incorporating the views of students, parents, and administrators to gain a holistic understanding of the educational ecosystem, rather than relying solely on teacher self-reports to create a clear landscape for future governmental policymaking.

References

Aguilar-Cruz, P. J., & Salas-Pilco, S. Z. (2025). Teachers' perceptions of artificial intelligence in Colombia: AI technological access, AI teacher professional development and AI ethical awareness. *Technology Pedagogy and Education, 34*(2), 219–238. https://doi.org/10.1080/1475939x.2025.2451865

Aliyyah, R., & Amalia, R. (2025). Elementary school teachers' perception of artificial intelligence integration in curriculum management. *Journal of Educational Management and Instruction (JEMIN), 5*(2), 405–421. https://doi.org/10.22515/jemin.v5i2.12003

Almashrgy, N. A. A., & Alburki, N. H. F. (2024). Teachers' perceptions on the impact of artificial intelligence on English language learning in Lybian learning EFL classrooms. *Malaysian Journal of Industrial Technology, 8*(4), 28–44. https://doi.org/10.70672/157qsn23

Aravantinos, S., Lavidas, K., Voulgari, I., Papadakis, S., Karalis, T., & Komis, V. (2024). Educational approaches with AI in primary school settings: A systematic review of the literature available in Scopus. *Education Sciences, 14*(7), 744. https://doi.org/10.3390/educsci14070744

Calleja, J., & Camilleri, P. (2025). Primary school teachers' perceptions towards the use of generative AI in teaching using lesson study. *International Journal for Lesson and Learning Studies, 14*(3), 237–252. https://doi.org/10.1108/ijlls-11-2024-0268

Castro, A., Díaz, B., Aguilera, C., Prat, M., & Chávez-Herting, D. (2025). Identifying rural elementary teachers' perception challenges and opportunities in integrating artificial intelligence in teaching practices. *Sustainability, 17*(6), 2748. https://doi.org/10.3390/su17062748

Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education, 20*(1), 43. https://doi.org/10.1186/s41239-023-00411-8

Chapelle, C. A., Baghestani, S., Beck, J., Kurt, S., Kusumaningrum, W., Lim, H. J., & Yin, S. (2024). Exploring Open AI in language teacher professional development. In C. A. Chapelle, G. H.

Beckett, & J. Ranalli (Eds.), *Exploring artificial intelligence in applied linguistics* (pp. 217–242). Iowa State University Digital Press. https://doi.org/10.31274/isudp.2024.154.13

Correa, D., & González, A. English in public primary schools in Colombia: Achievements and challenges brought about by national language education policies. *Education Policy Analysis Archives 24*(83). http://dx.doi.org/10.14507/epaa.24.2459

Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: the state of the field. *International Journal of Educational Technology in Higher Education, 20*(1), 22. https://doi.org/10.1186/s41239-023-00392-8

Departamento Nacional de Planeación. (2019). Documento CONPES 3975: Política nacional para la transformación digital e inteligencia artificial. Consejo Nacional de Política Económica y Social. https://colaboracion.dnp.gov.co/CDT/Conpes/Económicos/3975.pdf

Departamento Nacional de Planeación. (2025). Documento CONPES 4144: Política Nacional de Inteligencia Artificial. Consejo Nacional de Política Económica y Social. https://colaboracion.dnp.gov.co/CDT/Conpes/Económicos/4144.pdf

Dilzhan, B. (2024). *Teaching English and artificial intelligence: EFL teachers' perceptions and use of ChatGPT* [Master's thesis, SDU University]. EdArXiv. https://doi.org/10.35542/osf.io/fwy92

Dong, W., Pan, D., & Kim, S. (2024). Exploring the integration of IoT and Generative AI in English language education: Smart tools for personalized learning experiences. *Journal of Computational Science, 82*, 102397. https://doi.org/10.1016/j.jocs.2024.102397

Ertmer, P. A., & Ottenbreit-Leftwich, A. (2012). Removing obstacles to the pedagogical changes required by Jonassen's vision of authentic technology-enabled learning. *Computers & Education*, *64*, 175–182. https://doi.org/10.1016/j.compedu.2012.10.008

Espejo Aubá, P. C. (2024). La Inteligencia Artificial en educación: percepciones y saberes de los docentes. *European Public & Social Innovation Review, 9*, 1–19. https://doi.org/10.31637/epsir-2024-898

Eysenck, M.W., & Keane, M.T. (2020). *Cognitive Psychology: A Student's Handbook* (8th ed.). Psychology Press. https://doi.org/10.4324/9781351058513

Fadel, C., Holmes, W., & Bialik, M. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning.* Center for Curriculum Redesign.

Freeman, D. (2009). The scope of second language teacher education. In A. Burns & J. C. Richards (Eds.), *The Cambridge guide to second language teacher education* (pp. 11–19). Cambridge University Press.

Freeman, D., & Johnson, K. E. (1998). Reconceptualizing the knowledge-base of language teacher education. *TESOL Quarterly, 32*(3), 397–417.

Harari, Y. N. (2024). *Nexus: A brief history of information networks from the Stone Age to AI.* Random House.

Jeon, J., & Lee, S. (2023). Large language models in education: A focus on the complementary relationship between human teachers and ChatGPT. *Education and Information Technologies, 28*(12), 15873–15892. https://doi.org/10.1007/s10639-023-11834-1

Johnson, K. E. (2009). *Second language teacher education: A sociocultural perspective.* Routledge.

Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning: Opportunities and challenges. *RELC Journal, 54(*2), 537–550. https://doi.org/10.1177/00336882231162868

Lai, W. Y. W., & Lee, J. S. (2024). A systematic review of conversational AI tools in ELT: Publication trends, tools, research methods, learning outcomes, and antecedents. *Computers and Education: Artificial Intelligence, 7*, 100291. https://doi.org/10.1016/j.caeai.2024.100291

Law, L. (2024). Application of generative artificial intelligence (GenAI) in language teaching and learning: A scoping literature review. *Computers and Education Open, 6*, 100174. https://doi.org/10.1016/j.caeo.2024.100174

Li, B., Lowell, V. L., Wang, C., & Li, X. (2024). A systematic review of the first year of publications on ChatGPT and language education: Examining research on ChatGPT's use in language learning

and teaching. *Computers and Education Artificial Intelligence, 7*, 100266. https://doi.org/10.1016/j.caeai.2024.100266

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE.

Mazı, A., & Yıldırım, İ. O. (2025). Primary school teachers' opinions on the use of artificial intelligence in educational practices. *Social Sciences & Humanities Open, 11*, 101576. https://doi.org/10.1016/j.ssaho.2025.101576

Merriam, S. B. (1998). *Qualitative research and case study applications in education: Revised and Expanded from Case Study Research in Education*. Jossey-Bass.

Mizumoto, A., & Eguchi, M. (2023). Exploring the potential of using Chat GPT in English Language Teaching. *New Directions in Teaching and Learning English Discussion, 11*(1). https://doi.org/10.1016/j.rmal.2023.100050

Nguyễn Thị Trâm Anh. (2024). An investigation into teachers' use of AI platforms to design PPP lesson plans for young EFL learners. *Journal of educational equipment: Applied research, 2*(327), 327.

Preciado, F. a. M., & Pinargote, F. M. M. (2025). Impact of ChatGPT's conversational features on EFL Learners' English-Speaking Proficiency in Latin America: A literature review. *Arandu-UTIC., 12*(3), 900–913. https://doi.org/10.69639/arandu.v12i3.1353

Programa de las Naciones Unidas para el Desarrollo en Colombia. (2024). Evaluación AI Colombia. https://www.undp.org/sites/g/files/zskgke326/files/2024-12/undp_co_pub_evaluacion_ia_colombia_dic3_2024.pdf

Richards, J. C., & Farrell, T. S. C. (2005). *Professional development for language teachers: Strategies for teacher learning.* Cambridge University Press.

Shao, A. (2025). New sources of inaccuracy? A conceptual framework for studying AI hallucinations. *Harvard Kennedy School (HKS) Misinformation Review*. https://doi.org/10.37016/mr-2020-182

Stake, R. E. (2006). *Multiple case study analysis.* The Guilford Press.

Appendix

FORMULARIO DE EVALUACIÓN FINAL

Objetivo: Recopilar reflexiones y experiencias detalladas de los docentes sobre la integración de la Inteligencia Artificial (IA) en la planificación de clases de inglés como lengua extranjera (EFL) después del proceso formativo y de aplicación; identificando impactos, desafíos, éxitos y necesidades futuras de adaptación.

Estimado/a docente,

Agradecemos sinceramente su participación en este proceso de investigación sobre la integración de la Inteligencia Artificial (IA) en la planeación de clases de inglés como lengua extranjera (EFL). Su valiosa contribución ha sido fundamental para comprender la evolución de las perspectivas docentes. Este formulario busca recopilar sus reflexiones finales después de haber participado en las distintas fases del estudio. Su honestidad y sus detalladas respuestas son cruciales para el análisis comparativo y longitudinal de cómo sus percepciones han cambiado y se han enriquecido. La información aquí recopilada se utilizará exclusivamente con fines de investigación y se tratará de manera confidencial.
Por favor, dedique el tiempo necesario para responder cada pregunta de forma reflexiva y con el mayor detalle posible.

De antemano, gracias por su tiempo y participación.

Evolución del Conocimiento y la Comprensión de la IA y su Impacto Personal

1. Después del curso, describa con sus propias palabras qué ideas, imágenes o sentimientos surgen en tu mente en este momento cuando escuchas o piensas en **Inteligencia Artificial** y cómo ha evolucionado su **comprensión sobre qué es la inteligencia artificial y cómo funciona a nivel práctico** en el contexto educativo.

Aplicación Pedagógica Concreta de la IA en EFL

2. Comparta **un ejemplo concreto de cómo ha integrado herramientas de IA** en la planeación de sus clases de inglés con formato PPP después de la capacitación. Para este ejemplo, especifique:
   - **Herramienta de IA utilizada** (ej. ChatGPT, Canva, Pinterest, Word Wall, SchoolLogic, Gemini, Teachy app, Magic School, GymKid, EduTechAlab, u otras) y la **frecuencia de su uso** para esta actividad específica.
   - **Tipo de actividad o sección de la clase de inglés** (introducción, desarrollo de tema, práctica, cierre, evaluación, diseño de materiales, generación de ideas).
   - **Resultados observados en la clase** (ej. mejora en la participación de los estudiantes, aumento de la interactividad, optimización de su tiempo de planeación).

   - **Adaptación de materiales generados por IA:** (ej. **adaptar o modificar un material generado por la IA** para que se ajustara a las **necesidades lingüísticas, culturales o de diversidad** de sus estudiantes, niños con TDAH, autismo, dislexia).

3. **Manejo de "prompts" (comandos):** ¿Cómo ha sido su experiencia en el **desarrollo y uso de "prompts" o comandos efectivos** para obtener resultados más precisos y útiles de las herramientas de IA en la planificación de clases de inglés en formato PPP? ¿Ha notado una mejora en esta habilidad, y qué estrategias concretas utiliza para mejorar la calidad de las respuestas de la IA?

4. ¿Cuáles fueron las **dificultades más recurrentes** que encontró al aplicar las herramientas de IA en la planeación o desarrollo de sus clases de inglés, a pesar de la capacitación? Proporcione ejemplos.

Responsabilidad e Impacto General

5. Después de la capacitación, ¿qué **medidas concretas implementó para abordar los riesgos éticos** del uso de la IA en el aula, como la reproducción de sesgos, la violación de la privacidad, entre otros?

6. ¿Cómo describirías tu nivel de confianza y preparación para integrar la IA en tus clases hoy en día?