

The impact of AI grammar assistants on the writing competencies of EFL learners in Ecuador

El impacto de los asistentes gramaticales de IA en las competencias de escritura de estudiantes de inglés como lengua extranjera (EFL) en Ecuador

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Abstract

Learning to write in English as a foreign language requires multiple skills and is considerably more challenging than learning to read and speak English. For this reason, this study analyzed the positive aspects and drawbacks of using ChatGPT and Grammarly to better understand writing processes among Ecuadorian native speakers as second-language learners. Specifically, the study examined 30 adult beginning-level EFL learners, aged 50 to 60, at a public school in Yaruquí, Ecuador. The study sought to determine whether using these tools over a four-week classroom intervention would help improve writing, add to writers' confidence levels, and also strengthen their everyday use of the English language. To achieve this objective, a mixed-methods research instrument was designed, which included pre- and post-writing performance tests along with a semi-structured focus group, as a means of understanding subjects' attitudes and perceptions toward writing assistance tools. By combining these two data-collection approaches, quantitative testing and qualitative focus-group interviews, the research was able to examine both the improvements shown in the assessment results and the students' personal experiences. Results showed a statistically significant improvement in grammatical accuracy, with the error rate falling by more than half between the pretest and posttest, and most participants reported that the tools were easy to use, helped correct their mistakes, and increased their writing confidence. Keywords: Artificial Intelligence; Foreign Languages; Language Learning; Writing; Educational Technology.

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Resumen

Aprender a escribir en inglés como lengua extranjera requiere múltiples habilidades y resulta considerablemente más desafiante que aprender a leer y hablar inglés. Por esta razón, este estudio analizó los aspectos positivos y las desventajas del uso de ChatGPT y Grammarly para comprender mejor los procesos de escritura entre hablantes nativos ecuatorianos como aprendices de una segunda lengua. Específicamente, el estudio examinó a 30 aprendices adultos de inglés como lengua extranjera de nivel principiante, de entre 50 y 60 años, en una escuela pública de Yaruquí, Ecuador. El estudio buscó determinar si el uso de estas herramientas a lo largo de una intervención de cuatro semanas en el aula ayudaría a mejorar la escritura, aumentaría la confianza de los escritores y fortalecería su uso cotidiano del idioma inglés. Para lograr este objetivo, se diseñó un instrumento de investigación de métodos mixtos, que incluyó pruebas de desempeño de escritura antes y después de la intervención, junto con un grupo focal semiestructurado, como medio para comprender las actitudes y percepciones de los participantes hacia las herramientas de asistencia a la escritura. Al combinar estos dos enfoques de recolección de datos, pruebas cuantitativas y entrevistas cualitativas de grupo focal, la investigación pudo examinar tanto las mejoras evidenciadas en los resultados de las evaluaciones como las experiencias personales de los estudiantes. Los resultados mostraron una mejora estadísticamente significativa en la precisión gramatical, con una reducción de más de la mitad en la tasa de errores entre la prueba previa y la posterior, y la mayoría de los participantes indicó que las herramientas eran fáciles de usar, les ayudaron a corregir sus errores y aumentaron su confianza al escribir.

Palabras clave: Inteligencia Artificial; Lenguas Extranjeras; Aprendizaje de Idiomas; Escritura; Tecnología Educativa.

Introduction

Effective use of English as a foreign language (EFL) requires a complex set of skills. Most beginners, who are in the formal education, struggle to write basic sentences, use grammar correctly, and employ appropriate verb tenses (Carrión-Robles et al., 2023). Students continue to face subject-verb agreement errors. These errors affect the clarity of the text, but can also affect learners' confidence and self-esteem. These tools have shown that AI may help learners write texts better, and that these tools may help teachers teach writing with less emotional burden for their students, since grammar is a highly emotional topic for many learners, especially adults (Song & Song, 2023).

Over the past ten years, technology has taken hold of language learning classrooms. Teachers have come to value the use of technology to support writing tasks, including sentence formulation, the application of automatic grammar-checking tools (Akanda & Talukder, 2026) like Grammarly, and language-generation tools like ChatGPT. While positive perspectives on the use of such technologies were reported, most observed improvements in grammar and sentence construction, and an increase in learner self-management. Writing task tools help beginners pronounce and practice complex grammatical elements.

These results are positive, but most of the underlying research was conducted in North America and Europe. These regions present significant differences compared to Latin America in their sociocultural contexts, instructional styles, and access to technology (Huang et al., 2023). As a

result, findings cannot be directly transferred. In Ecuador, research on grammar-support technologies used in the classroom remains underdeveloped (Carrión-Robles et al., 2023; Córdoba et al., 2026). Until more literature becomes available, teaching technologies and practices, as well as learners in Ecuadorian schools, remain understudied. The integration of technologies in Ecuadorian EFL/ESL classrooms depends heavily on institutional and teaching resources (Al-Maashani & Mudhsh, 2023), resources that show considerable variation across the public education system. Therefore, the actual classroom impact of grammar-support technology depends on how well technological resources are adapted to local contexts. In the absence of contextualized research, teachers and policymakers cannot determine how, and in what way, grammar-support technologies should be integrated into language teaching.

This study begins to address the gap in the literature by examining the writing of beginning-level English as a foreign language (EFL) students and their writing confidence at the Pedro Bouguer School, Yaruquí, Ecuador, with a focus on Grammarly and ChatGPT. The aim was to see how emerging technology, AI (Artificial Intelligence), can support learners with verb tenses and subject-verb agreement within a real classroom setting.

To answer the research questions, this study reports on the following:

- What is the effect of Grammarly and ChatGPT on grammatical accuracy in English writing?
- How do learners perceive the help available in Grammarly and ChatGPT for correcting writing errors?
- How do AI grammar tools affect learners' confidence and enthusiasm when writing in English?

Theoretical framework

This study focuses on the role of technology in language learning, with a focus on confidence and accuracy when using AI tools to improve grammar in second-language learning and writing. It is used the terms “Grammarly” and “ChatGPT” by default for all language-specific AI tools. However, the focus is on the role of these tools as writing assistants. It is believed that the role of a teacher cannot be replaced by one of these tools.

Within this framework, a portion of Gardner's (1985a), sociocultural educational model is employed. This model describes the impact of attitude and motivation on learners' linguistic competence and distinguishes between integrative and instrumental motivation to explain how a student's emotional disposition toward the language and its speakers affects how they face the demands of the learning process. For novice EFL learners with anxiety, creating a supportive emo-

tional climate can be just as valuable as grammar instruction in addressing their self-perceived difficulty and hesitation.

A second axis is derived from the construct of Perceived Usefulness within the Technology Acceptance Model (TAM), as originally set out in Davis (1989), which describes an individual's judgment of how a given technology affects their performance (González-Lloret, 2021). Learners who view the AI Grammar Tool in this light, as helping them write with fewer errors and with greater confidence, are, according to this model, more likely to use the tool regularly. Combining Gardner's perspectives on the affective dimension in language learning with TAM's focus on perceived usefulness offers us two complementary perspectives for evaluating the role of AI-based grammar assistants in the initial writing process.

This two-pronged approach pauses to situate some empirical studies on AI-augmented writing and technological writing aids for English as a foreign language within this context. This provides an initial grounding for some of the theoretical constructs presented, in relation to studies on Grammarly and ChatGPT found in the literature.

State of the Art

Whenever artificial intelligence (AI) is mentioned alongside writing in EFL contexts, there is a strong positive response. One example might be Akanda and Talukder (2026). In their study, they interviewed teachers and learners. They found that AI-based writing support tools are useful for both groups. One reason is that these tools offer suggestions and feedback on grammar, which teachers cannot provide to every learner in their large classes. The sources reviewed describe AI as a support for teaching and learning in situations where teaching and learning occur with limited or no interaction between the teacher and the person dictating. However, other teachers surveyed expressed concern about learners' dependence on these tools and believe that learners do not think through the grammar and logic behind the notes or corrections.

Literature is covered by exploring the trade-off between efficiency and comprehension. Barrot (2023), examining automated written corrective feedback more broadly, found that such feedback can produce measurable gains in second-language writing accuracy, but cautioned that the depth of learning depends on whether learners actively process the feedback rather than mechanically applying suggested corrections. Similarly, Link et al. (2022), reported that automated writing evaluation tools can support meaningful revision when paired with teacher feedback, suggesting that AI-based correction functions best as a complement to, rather than a substitute for, instructor involvement.

Regarding the affective dimension, Nazari et al. (2021), demonstrated that AI writing assistants such as Grammarly can increase students' willingness to write by reducing anxiety and

fostering a more positive attitude toward writing tasks, a finding that underscores the importance of emotional support in language learning, particularly for beginners who are prone to self-doubt. Consistent with these findings, Song and Song (2023), reported that AI tools can enhance both motivation and accuracy in academic writing, noting that regular use appears to help learners develop a stronger awareness of grammatical rules over time. Guo and Wang (2024), focusing specifically on ChatGPT, found that the tool's capacity to generate explanatory, conversational feedback distinguishes it from more narrowly corrective applications like Grammarly; where Grammarly is typically used to flag and correct discrete errors, ChatGPT is more often used by learners to request explanations, alternative phrasings, or clarification of why a correction was made. This distinction, drawn from the literature rather than from the present study's own data, is one the Discussion returns to when interpreting participants' qualitative comments about explanations being useful.

Slimi et al. (2025), examined students' broader perceptions of AI integration in higher education and found generally favorable attitudes, tempered by concerns about over-dependence and the erosion of independent problem-solving skills, concerns that echo those raised by Akanda and Talukder (2026). Research involving older adult learners remains comparatively limited, though Puebla et al. (2022), found that mobile-assisted language learning can create meaningful opportunities for older adults when digital tools are made accessible and adapted to learners' needs, and Ochoa Siguencia (2025), reported that combining English instruction with digital literacy training can strengthen older learners' confidence in using technology more generally.

Even with these new data, most research continues to focus on university students or adult learners in North America, Europe, or East Asia, with little attention paid to beginning EFL learners in culturally diverse areas. The literature on under-resourced classrooms is also insufficient within the body of literature focused on AI-assisted writing. In Ecuador and similar contexts, teaching is often characterized by limited technology and highly variable student digital literacy. Most of the studies reviewed lack these contexts. This study aims to offer an initial description of AI grammar tools for beginning-level adult students at a public school in Ecuador. It also provides an initial account of how AI tools can support language learning in that context.

A further gap concerns learner age. The studies reviewed above, including those reporting favorable outcomes for grammatical accuracy and learner confidence, were conducted almost exclusively with school-age or young-adult populations. Adult learners returning to formal English study later in life, such as the 50-to-60-year-old participants in the present study, are largely absent from this literature, despite evidence from adjacent fields, including Puebla et al. (2022) and Ochoa Siguencia (2025), that older adults can benefit meaningfully from well-adapted digital language-learning tools. The present study therefore also contributes evidence relevant to a learner population that existing AI-in-EFL research has yet to examine in any depth.

Methodology

Study design

This study used a sequential explanatory mixed-methods design, in which quantitative data collection preceded and informed the subsequent qualitative phase. This approach was selected to measure the impact of AI grammar tools on EFL writing performance while also capturing beginning-level learners' perceptions of, and attitudes toward, the tools used during the intervention. The primary aim of the research was: to identify the effect of AI-based grammar tools on the writing accuracy of beginning EFL learners, and to assess the effect of these tools on learners' confidence in their own writing.

Setting and participants

This study used 30 adult beginning-level English as a foreign language (EFL) learners from a class at the Bouguer School in Yaruquí, Ecuador that has around 1,800 students., contributed 10 male and 20 female participants of more advanced adult age (50-60 years). They were enrolled in weekly in-person English classes. Participants with high English proficiency levels and/or participants with prior experience using AI-supported writing tools were not included. This was done to narrow the sample and focus on participants for whom the study offered a new kind of support. Participation was voluntary, and the school provided 15 computers so that participants could use the AI grammar tools that were part of the study.

This sample is small and limited to a single institution and one adult age group. Section 4.5 discusses what this restriction means for the study's results. Additionally, participants only attended English classes once a week. This is a common limitation of adult continuing-education programs within the Ecuadorian public education system. This limited English exposure means that the four-week intervention represented only a small fraction of the total possible instructional time. This will be discussed in detail in the study's limitations.

Instruments

Three main instruments were used to collect data for this study.

Pretests and posttests. A 15-item test assessed the use of specific grammatical constructions, divided into two parts. In Part A, participants answered 10 items on subject-verb agreement and present/past tenses (i.e., "She _____ to the market every day"). For Part B, participants wrote a 50-

to 75-word paragraph describing their daily routine or a personal experience. Participants' written paragraphs were analyzed for verb tense usage.

Perception survey. Based on Slimi et al. (2025), the perceived accuracy of this AI tool and participants' comfort level, as well as their satisfaction and motivation to use the tool, were assessed using a combination of Likert-scale items and open-ended items. The closed items aim to concentrate on the description of the response and the depth of the experience within an otherwise fairly complex survey.

Focus groups. Focus group participation consisted of a semi-structured interview with six participants. This session was recorded, transcribed, and analyzed for focus group evaluation. In addition, several elements from Gardner's Attitude/Motivation Test Battery (Gardner, 1985b) were included to provide a more systematic and theoretically grounded assessment of attitude-directed motivation.

This study did not incorporate a formal, validated anxiety instrument. As noted in the Results and Discussion sections, any comments regarding anxiety reduction are based on the confidence-related Likert item ("I feel more confident when writing") within the perception questionnaire, and on the common themes observed in the focus group transcripts. It should be noted that comments and observations about anxiety in the focus group transcripts lack the rigor of a standardized anxiety measure or a psychometric instrument. This is also important when assessing the strength of affective claims made in this article, and is elaborated further in Section 4.5.

Procedure

Before the intervention, students completed a pretest writing task. Over the following four weeks, students used both Grammarly and ChatGPT and received instructor support during writing practice. Both tools were made available to all participants, rather than being assigned to two separate groups, so the study cannot distinguish the role played by each of the two tools individually. This approach, and what it means for the results, is discussed in Section 4.5. After completing the four weeks, students completed a posttest writing task to assess the difference in grammatical accuracy compared to the pretest.

After completing the posttest, students filled out the perception survey. The focus group was conducted to further explore participants' perceptions and confidence. A consent form was signed by all participants, indicating that their participation was voluntary, that they could withdraw from the study at any time, and that their data would be kept confidential and reported without names.

Data analysis

Paired-samples t-test and Cohen's d were used to analyze the quantitative data collected from the pre- and post-writing assessments, in order to determine whether the change in grammatical accuracy was statistically significant and to determine the magnitude of the change, respectively. To summarize the Likert-scale data collected in the perception questionnaire, It was used descriptive statistics. Open-ended question data were analyzed using a method based on identifying common themes. It was reviewed each response, assigned it an inductive code, and organized the codes into themes. The same method was used to analyze the focus group data; however, particular attention was paid to participants' self-perception, motivation, and confidence. The data was coded by the author of this article without a second coder, and therefore it was unable to determine inter-rater reliability. This is another limitation that it is explained in Section 4.5.

Results

This section presents the results of the study's research instruments in quantitative form with respect to changes in grammatical accuracy, and in qualitative form with respect to students' attitudes and perceptions.

Quantitative results

Improvement in grammatical accuracy. The effectiveness of the AI-assisted intervention was examined using post-test versus pre-test results. With the analysis focused specifically on errors related to verb tenses and subject-verb agreement. (see Table 1.1 and 1.2).

Table 1. Grammar accuracy

Assessment	Mean score	Standard Deviation	Error reduction
Pre-test	5.4 / 10	± 1.2	–
Post-test	8.2 / 10	± 0.9	+51.8%

Source: Caiza (2026).

Table 2. Statistical results for grammar accuracy

Measure	Result	Interpretation
T statistic	14.18	Very large test statistic
P value	< .001	Statistically significant
95% CI	[2.40, 3.20]	Mean difference is positive
Cohen's d	2.59	Very large positive effect

Source: Caiza (2026).

Table 3. Comparison of error frequency for the two grammatical categories

Type of Error	Before Using AI	After Using AI	Improvement
Verb tense	High frequency	Low frequency	Significant reduction
Subject-verb agreement	High frequency	Medium frequency	Noticeable improvement

Source: Caiza (2026).

The results of a paired-samples t-test indicated that participants achieved significantly greater grammatical accuracy following the intervention, $t(29) = 14.18$, $p < .001$, 95% CI [2.40, 3.20]. The effect size was large and positive, with Cohen's $d = 2.59$, suggesting that the AI tools used in the intervention led to a substantial improvement in participants' grammatical accuracy on the measures used in this study (Akanda & Talukder, 2026; Carrión-Robles et al., 2023; Córdova et al., 2026; Ochoa Siguencia, 2025; Syuhra, et al., 2025). Since the two tools used were AI-based grammar assistance employed jointly throughout the intervention, this result should be interpreted in light of AI-based grammar assistance as a whole, rather than as reflecting Grammarly and ChatGPT individually.

Questionnaire results. Using the data provided in Table 3, it is shown some descriptive data on students, such as their perception of the given tools, following the conclusion of the intervention.

Table 4. Percentages adjusted to total 100% per row for reporting consistency

Statement	Strongly Agree/Agree	Neutral	Disagree
The tool is easy to use	93%	7%	0%
It helped me correct my mistakes	90%	10%	0%
I feel more confident writing	87%	10%	3%
I would like to use it again	97%	3%	0%

Source: Caiza (2026).

Four statements were assessed, and a clear majority of participants held a positive view of the tools. Agreement was 87% for the statement about confidence and 97% for the statement regarding participants' willingness to continue using the tools (Carrión-Robles et al., 2023; Córdova et al., 2026; Ochoa Siguencia, 2025). The responses indicated a generally positive view of the intervention. As mentioned, participants only had the survey to distinguish between Grammarly and ChatGPT. These figures describe what research participants had to say about the AI writing tools based on their experiences, as opposed to a comparison of the two tools.

Qualitative results

Focus group findings. The results of the focus group interviews examined participants' engagement with the intervention by coding the data for main ideas. The interviews yielded four main themes. The first concerned feedback. Participants liked being able to receive personalized feedback on their responses. This stood out compared to the limited feedback given by instructors in traditional in-person classes. The second main theme concerned reduced anxiety. Several participants felt that the tools decreased their anxiety and apprehension about making mistakes, and with this reduction in anxiety, participants were able to write without inhibition.

Explanations as a key feature: participants enjoyed the tool's ability to not only check grammar but explain its logic behind the corrections. Participants were able to understand confusing points of grammar. This feature was particularly useful to the participants (Gardner, 2020).

Users struggled to use the software because of a lack of computer experience. This turned out to be a short-term issue that was resolved with two sessions of step-by-step guidance.

The themes show participants engaging in low-risk practice and repetition. The focus group questions did not ask participants to differentiate between Grammarly and ChatGPT. As a result, the themes describe the AI-assisted intervention as a whole, rather than the individual tools. However, where the literature helps distinguish between the two, this is done in the Discussion.

The four themes identified above overlap, but some participants who enjoyed seeing the reasons behind errors also mentioned experiencing less anxiety while writing (Nazari et al., 2021). This may mean that, for some participants, the activity that boosted their confidence was actually understanding the nature of the error rather than correcting the error itself. The relationships between feedback and anxiety are addressed in detail in Section 4.3, where it is argued that there is a logical progression from understanding the error to text revision and the development of writing confidence.

Discussion

These findings indicate that the use of AI grammar checkers improves real-time feedback for beginning-level EFL learners, both in terms of their grammatical accuracy and their overall confidence in writing (Akanda & Talukder, 2026; Carrión-Robles et al., 2023; Córdova et al., 2026; Ochoa Siguencia, 2025). In this section, it is analyzed each finding in relation to the research questions, and then the implications of the findings for teaching and learning, as well as address questions related to the limitations of the findings.

Grammatical accuracy (Research Question 1)

The 51.8% reduction in error rate with the use of Grammarly and ChatGPT, along with the gradual correction of verb tenses and subject-verb agreement shown in the tables, demonstrates that the combined use of both applications significantly reduced grammatical errors during the intervention. This result corroborates the studies by Guo and Wang (2024), as well as the studies by Song and Song (2023) and Link et al. (2022). These studies note that writing can improve through the use of AI feedback tools. This study differs from the others in that the participants, adult learners aged 50 to 60 with rudimentary digital skills, have been previously overlooked. This demonstrates the potential usefulness of these AI grammar tools for an older population with fewer digital skills, a population that is currently largely disregarded. That said, given the study's design as it stands, the usefulness of AI grammar tools might extend to a broader age range. However, this should be seen as a focus for future studies rather than as an already established fact.

Perception of usefulness (Research Question 2)

Table 3 shows clear evidence of high acceptance and perceived usefulness among participants. Drawing on Gardner's (2020), socio-educational model, this demonstrates that the AI tools had perceived practicality for participants and fostered a positive attitude toward the tools. Having practicality and a positive attitude may even generate in participants a desire to complete more English writing tasks, turning AI-based grammar tools into a form of varied support for students (Carrión-Robles et al., 2023; Córdova et al., 2026; Ochoa Siguencia, 2025; Nazari et al., 2021). When interpreting the literature more appropriately, Grammarly's correction feature and ChatGPT's explanation feature may help explain why participants in the present study liked receiving explanations and corrections, which was a positive attitude reported by the focus group. However, since the two tools were not differentiated in the current study, this interpretation is based on the literature rather than on this study's data.

Impact on motivation and confidence (Research Question 3)

The data reveal an association between the intervention and participants' affective reactions toward writing. Specifically, the data revealed that 87% of study participants reported an increase in writing confidence, and the focus groups revealed a reduction in writing anxiety. Both align with Gardner's (1985a), emphasis on the affective dimension of language learning. The results also align with Nazari et al. (2021), and their finding that AI-based tools foster a sense of positivity in learners toward completing writing tasks.

Considering these results, a new conceptual sequence is proposed: AI-generated feedback helped participants understand where they made grammatical errors. Participants were able to successfully revise their work independently and made an important contribution to the group, making them feel more confident in writing tasks. The data show, for the first time, that correct writing is a significant driver of motivation for adult learners. Previously, written tasks were a major source of frustration. However, once the writing tools became available to participants, they came to view written tasks as goals that could be achieved.

This study does not use a validated psychometric instrument to measure levels of anxiety or confidence. Its conclusions rely on a single Likert-scale item and on themes coded by the researcher from six focus-group participants. Results should be considered tentative. The findings capture the challenges of older adult learners and align with existing literature. Puebla et al. (2022), note that, under certain circumstances, mobile-based language learning programs can offer older learners' opportunities to acquire language when appropriate digital tools exist and are used according to learners' needs. Ochoa Siguencia (2025), states that, alongside language instruction, digital literacy teaching builds confidence in older learners when dealing with other aspects of digital technology. This study attempts to contribute to the existing literature by asserting that at least some uses of AI-based grammar tools can help adult learners aged 50 to 60, an age group that has been largely overlooked in previous research.

Pedagogical implications

This study demonstrates that AI grammar tools provide scaffolding and can therefore offer a useful form of technology for teachers whose time is in high demand. It could resolve beginning-level problems through feedback. However, instructional guidance is required to prevent students from unconsciously offloading their writing onto the technology.

AI grammar tools, if properly guided, can address the feedback problem that many students face. Slimi et al. (2025) and Akanda and Talukder (2026), have raised concerns about the difficulty of preventing students from blindly copying and shamelessly relying on the technology. Although this technology can solve the challenge of providing feedback to students, it can also produce the opposite effect. Here, training both students and teachers to provide writing feedback to students is the best approach, because this writing feedback may drive students' reasoning about language.

Limitations

There are several limitations to the present study. First, the sample of 30 participants recruited from a single school limits the extent to which this study's results can be applied to other

populations and contexts. Therefore, the results should not be interpreted as speaking to all adult learners of English as a second language in Ecuador. Second, the 4-week intervention period helps us better understand the extent to which participants' writing habits and behaviors improved. The results might indicate that participants wrote more, used more advanced writing structures, or employed different writing processes. This change may have occurred because participants had to learn how to use new tools to support their writing. Additional research may be needed to address this question.

Third, this study combined Grammarly and ChatGPT within the intervention. As a result, the effects reported both quantitatively and qualitatively correspond to both AI tools together and cannot be attributed to one tool or the other individually. Future research could disentangle the complementary contributions of Grammarly and ChatGPT through a between-groups design, uncovering what each tool contributes to participants' accuracy and confidence, respectively. Fourth, the study relied on the school's resources and 15 computers used by 30 participants. This means that schools without similar resources may need to adjust the method used in this study, thereby limiting the extent to which the method employed here can be generalized. Finally, as noted in Section 2.3, this study did not use anxiety assessment instruments, relying instead on a single survey item directed at participants and on focus group discussions coded by theme. This means the claims about anxiety and confidence made in Section 4.3 may be somewhat speculative.

Conclusion

The intervention revealed that, when used in combination, Grammarly and ChatGPT were able to support beginning adult learners of English as a foreign language (EFL) with their grammar in a statistically significant way over a four-week period. The intervention also revealed that beginning adult EFL learners with basic English skills and basic digital skills were successful in using the tools and valued the assistance, especially the combination of error correction and hints.

These findings also offered interesting theoretical and practical implications. For participants, there was a positive relationship between perceived writing confidence and writing accuracy according to the methodology used in this study. Participants described having a greater sense of confidence in writing and generating a positive effect alongside AI grammar tools. This also supports Gardner's sociocultural theory and the Technology Acceptance Model.

However, the findings should also be considered preliminary and context-specific. Limitations related to the single-school sample, the sample size, the short duration of the study, and the author's inability to separately determine the effect of Grammarly and ChatGPT should also be taken into account when evaluating the findings. Those who use AI grammar tools in education in countries like Ecuador, or in similar contexts, should consider the results of the present study

as preliminary and should seek to answer broader and more substantial research questions. They should place particular emphasis on training teachers in the practical use of these tools and their integration into the classroom within the ethical boundaries of the profession.

The effectiveness of broader research would depend on between-groups studies that determine the differences in the use of Grammarly and ChatGPT, longer periods that determine long-term effects on writing, instruments to measure writing anxiety, and research investigating effects across different populations. This would make it possible to determine the effects of AI grammar tools on the developmental stage of EFL writing, and whether the conclusions drawn in the present study hold up effectively over the long term.

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