Desarrollo De Las Habilidades De Escritura En Estudiantes Universitarios Mediante La Construcción De Prompts Para Chat GPT AI

Promoting Writing Skills in University Students by Using the Construction of Prompts For Chat GPT AI

Desenvolvendo competências de escrita em estudantes universitários através da criação de prompts de chat com IA do GPT

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Resumen

Este estudio explora el potencial que implica integrar herramientas de inteligencia artificial, específicamente ChatGPT, para mejorar las habilidades de escritura en inglés como lengua extranjera (EFL) de los estudiantes, a través de la construcción de prompts. Considerando la escritura como una habilidad académica fundamental, y las dificultades que enfrentan los estudiantes de Ingles como lengua extranjera para producir textos coherentes y bien estructurados, esta investigación evalúa la efectividad de un programa de capacitación a corto plazo diseñado para mejorar la capacidad de los estudiantes universitarios para crear prompts adecuados para ensayos generados por IA. El estudio cuasi-experimental dividió a 90 estudiantes universitarios con un nivel de inglés B1 en tres grupos. La intervención se desarrollo durante cinco días, abarcando la orientación, sesiones de capacitación y evaluaciones pretest/post-test, recopilando datos mediante métodos cuantitativos, incluidos t-tests para muestras emparejadas, y reflexiones cualitativas con encuestas de escala Likert. Los resultados revelaron una mejora estadísticamente significativa en las habilidades de escritura de prompts de los estudiantes, aunque fue posible identificar desafíos relacionados con las instrucciones, la ambigüedad, errores gramaticales y un contexto inadecuado. Además, los estudiantes indicaron un aumento en su confianza, motivación y claridad al escribir después de la intervención.

Palabras Clave: ChatGPT; construcción de indicaciones; habilidades de escritura.

Abstract

This study explores the potential of integrating AI tools, specifically ChatGPT, to enhance English as a Foreign Language (EFL) students' writing skills by focusing on prompt construction. Considering writing as an important academic skill, and EFL learners often face challenges in producing coherent and well-structured texts, this research examines the effectiveness of a short-term training program designed to improve university students' ability to create effective prompts for AI-generated essays. The quasi-experimental study divided 90 university students with a B1 English proficiency level into three groups. The intervention included five days, encompassing orientation, training sessions, and pretest/post-test assessments, in which data was collected through quantitative methods, including paired-sample t-tests, and qualitative reflections with Likert scale surveys. The findings revealed a statistically significant improvement in students' prompt-writing skills, however, it was possible to identify challenges related to instructions,

Yanina Del Rocio Carbo Silva, María José Sandoval Pérez, Marta Cecilia Álvarez Peña, Vicente Javier Coello Vásquez

ambiguity, grammatical errors, and inadequate context. Additionally, students reported increased confidence, motivation, and clarity in writing after the intervention.

Keywords: ChatGPT; prompts construction; writing skills.

Resumo

Este estudo explora o potencial da integração de ferramentas de IA, especificamente o ChatGPT, para melhorar as competências de escrita dos alunos de Inglês como Língua Estrangeira (EFL), com foco na construção de prompts. Considerando a escrita como uma competência académica importante, e os estudantes de EFL enfrentam frequentemente desafios na produção de textos coerentes e bem estruturados, esta investigação examina a eficácia de um programa de formação de curta duração concebido para melhorar a capacidade dos estudantes universitários de criarem prompts eficazes para ensaios gerados por IA. O estudo quase experimental dividiu 90 estudantes universitários com um nível de proficiência em inglês B1 em três grupos. A intervenção teve a duração de cinco dias, abrangendo orientação, sessões de treino e avaliações pré-teste/pós-teste, nas quais os dados foram recolhidos através de métodos quantitativos, incluindo testes t para amostras emparelhadas, e reflexões qualitativas com questionários em escala Likert. Os resultados revelaram uma melhoria estatisticamente significativa nas competências de escrita de prompts dos alunos; no entanto, foi possível identificar desafios relacionados com instruções, ambiguidade, erros gramaticais e contexto inadequado. Além disso, os alunos reportaram um aumento da confiança, motivação e clareza na escrita após a intervenção.

Palavras-chave: ChatGPT; construção de prompts; competências de escrita.

INTRODUCTION

The importance assigned to English in the academic area is undeniable. The most important academic literature has been presented using this language. In this situation, even being able to read and write using this foreign language is considered vital in the educational and professional areas. Handayani et al. (2020) mentioned that teaching English in an EFL context is complex; educators must use creative thinking to identify and vary the ways to embrace this challenge.

Senyoum et al. (2022) stated that writing is one of the most important skills and is considered active and productive for learning and producing knowledge. Both Alderson et al. (2002) and Reichenbach (2001) agreed that writing is a process in which thoughts are organized, and critical

thinking plays an important role. Hence, the ability to write in English is a way learners can express their ideas, thoughts, and feelings.

Regarding higher education, its curricula often involve extensive writing assignments, including essays, reports, research papers, and dissertations. These evaluative assignments promote analytical, organizational, and argumentative skills. Moreover, writing skill is the primary form in which university learners demonstrate their understanding of course material since written assignments require the synthesis of knowledge and the joining of coherent arguments; that is the main reason that professors and evaluators use these assignments to assess learners' content mastery and their ability to analyze, interpret, and present information (Citraresmana, 2019).

Given the importance of writing skills, it is necessary to promote their development among EFL learners; hence, identifying ways to help learners improve in this area through technology has become a key point. Technology has revolutionized teaching from conventional to modern (Aminatun, 2019). In this way, Artificial intelligence (AI) brings great opportunities and challenges to EFL learning and teaching (Song et al., 2023). Aldosari (2020) stated that AI can be considered as an intelligent program that collaborates with human beings to perform certain types of tasks. Xia et al. (2022) argue that AI has different uses to enhance tracking methodologies for language instructors and facilitates language acquisition.

Chat GPT is one of the most useful AI, especially in enhancing writing abilities. Barrot (2023) argued that Chat GPT helps to develop writing skills since it "generates words and grammatically correct structures to facilitate the creation of coherence and cohesion in the written text" (Barrot, as cited in Song et al., 2023., p. 3). Rahman et al. (2022) investigated the impact of AI tools and found that they present improvements in writing skills while learners also expressed positive perceptions about the benefits of these tools in refining their written communication.

Also, Utami et al. (2023) conducted a case study that identified the positive influence of AI on academic research writing, demonstrating increased engagement and improved writing proficiency in participants. Additionally, Hwang et al. (2023) provided further evidence of AI's role in academic writing. His study revealed that the learners who used AI tools outperformed the ones who did not in writing tasks, with the tools' personalization features facilitating better revision and editing practices.

When using ChatGPT for writing, one of the challenges starts with the prompt design; one common difficulty is the lack of specificity, as vague or overly broad prompts lead to irrelevant responses.

Another complex situation responds to balancing simplicity and complexity, which is equally important. Moreover, simplistic prompts result in shallow responses, whereas excessively confusing prompts confuse the AI and produce fragmented results (Poola, 2023). Thus, creating prompts related to the topic, scope, and expected structure is essential while specifying the desired level of detail. Therefore, this study aims to identify common errors learners produce when constructing prompts and explore the effectiveness of a short-term training program in enhancing EFL students' ability to construct effective English-language prompts for generating essays using AI tools.

Therefore, this study has the following research questions.

1. What are the common errors in constructing the prompts concerning grammar structures, connectors, vocabulary, and punctuation?
2. Is there any difference between the original and final prompt constructed?
3. What are the learners' perceptions regarding the initial and final prompt constructed?

METHODOLOGY

This study employs a quasi-experimental design, incorporating both qualitative and quantitative data collection methods to evaluate changes in prompt construction skills and identify common errors in their construction. According to Hernandez-Sampieri (2018), a quasi-experimental design mixes both qualitative and quantitative methods within a single study, helping to gain a more comprehensive and complete understanding of the research.

The participants are a sample of 90 university EFL students aged 18-24 with a B1 level of English. They were selected intentionally according to a criterion, in which participants were chosen based on predefined criteria, such as the proficiency level of B1 (Staller, 2021). The participants were divided into three groups of 30 for logistical ease and access to AI tools. The study occurred during five training days, focusing on instruction, practice, and evaluation.

The study took place in three phases. Phase one was dedicated to the participants' orientation and the application of the pretest, which was done on the first day. Phase two was performed during the training sessions, which were given on days 2, 3, and 4. Finally, phase four was performed on

day 5; on this day, the post-test was applied, and final comments from the participants were gathered.

Table 1.

Phases of the study

Phases	Activities
Phase 1 Day 1	1.1 Orientation General explanation of the study Introduction to AI tools and prompt writing 1.2 Pretest Students individually write a prompt in English for an essay on *healthy habits* without prior guidance.
Phase 2 Day 2, 3, 4	2.1 Training sessions 2.1.1 Fundamentals of Prompt Construction 2.1.2 Analyzing Poorly Constructed Prompts 2.1.3 Trial and error in prompt construction, feedback on this process.
Phase 3 Day 5	3.1 Post test Students individually write a prompt in English for an essay on *healthy habits.* 3.2 Collecting students' perceptions regarding this process.

Note. Elaborated by the authors

The gathered data was obtained with a pretest and posttest concerning quantitative information and in relation to qualitative information; the students' perception was gathered through their reflection in the form of a Likert scale. Additionally, the data analysis was performed with Paired-sample t-tests to compare pretest and post-test scores, descriptive statistics for identification of common characteristics of the promotes constructed initially, and coding information related to participants' perception of the challenges and improvements of the process.

Concerning Ethical Considerations, all the participants signed a consent form explaining the study's purpose, procedures, and rights. All the data is anonymous to ensure student privacy and that their participation is voluntary, with the right to withdraw at any stage.
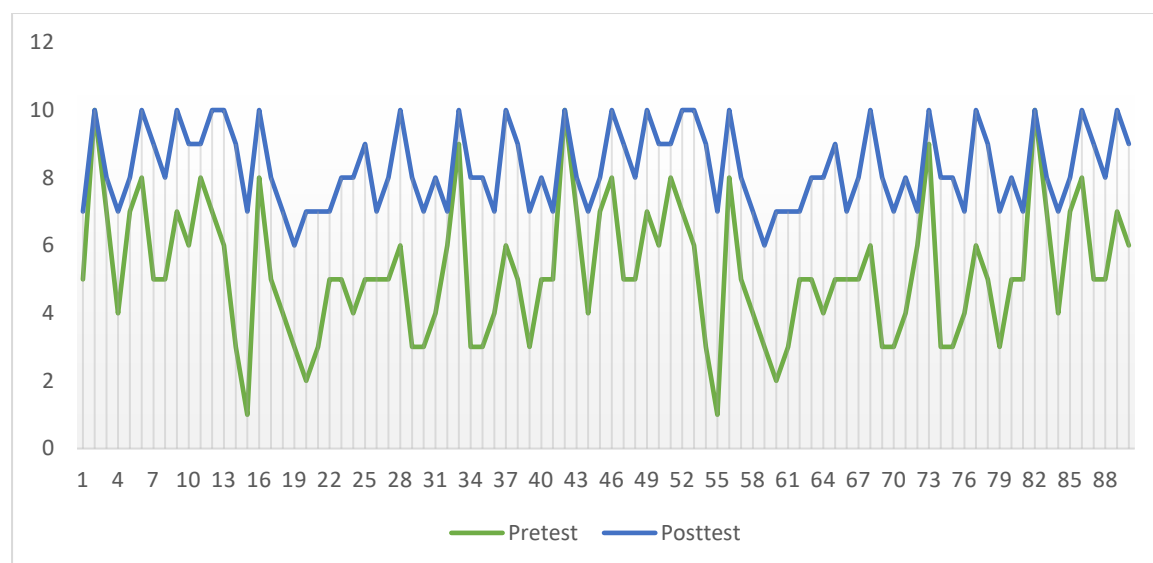
RESULTS

Pretest and post-test related to writing production

Graphic 1 shows the pretest and posttest results; based on these results, it can be observed that the participants obtained higher results after the week's course on constructing prompts.

Graphic 1.

Scores from the writing productions in the pretest and posttest.

Note. The results obtained from the pretest and posttest were applied to the participants, using the same rubrics and activities, and calculated out of 10.

Paired-sample t-tests

Based on the results, it is possible to identify that the Pearson correlation coefficient (r), which measures the strength and direction of the linear relationship between the two data, in this case correlation = 0.705, it indicates a strong positive correlation. Moreover, the Sig. (p-value) = 0.000, indicates the level of statistical significance associated with the correlation. A p-value of 0.000 demonstrates that the observed correlation is statistically significant. Hence, this means it is improbable that the observed correlation occurred by chance.

Table 2.

Paired Sample Correlations

	N	Correlation	Sig.
Pair 1: PreTest & PostTest	90	0,705	0.000

Note. Calculated based on 95% level of confidence.

As observed in Table 3, The mean difference between the PreTest and PostTest scores is -3.06667, indicating that, on average, participants scored approximately 3.07 points higher on the PostTest compared to the PreTest. This suggests a notable improvement after the intervention. Additionally, the standard deviation reflects the variability in the differences between the PreTest and PostTest scores. A value of 1.41262 shows relatively moderate dispersion, meaning most participants experienced similar levels of improvement.

Concerning the significance value, the p-value = 0.000 demonstrates a statistically significant improvement in the participants' performance from PreTest to PostTest. The consistent improvement suggests that the intervention effectively enhanced their ability to construct prompts and achieve better writing outcomes in English. This analysis indicates that the program used substantially and reliably positively affected students' skills.

Table 3.

Paired samples T-test

	Mean	Std. Deviation	95% Confidence Interval of the Difference	the t	df	Sig. (2-tailed)
Pair 1: PreTest - - PostTest	-3.06667	1.41262	-3.36253	-2.77080 -20.595	89	0.000

Note. Calculated based on 95% level of confidence

Students' perception about the construction of prompts and the training course

Regarding the student's perception of the use of prompts and the impact of a training course focused on its construction. According to the results, 100% of participants stated they were more confident in writing effective prompts once they finished the course. Also, all participants agreed that learning to construct the prompts has made it possible to improve their English writing skills. In the same way, they conclude that the skills they gained throughout this course have helped them to be clearer about organizing ideas when writing in English. However, despite the usefulness of the course, they do not consider it enough when referring to the development of critical thinking. Hence, 50 % of them disagree with this statement.

Fortunately, all of the participants believe that knowing how to construct prompts accurately benefits them in their academic lives. They also consider this course to have helped them learn how to use AI to produce relevant and coherent content in English. They state that they feel more motivated to practice and improve their English skills more frequently; hence, this course has significantly contributed to writing better in English.

Graphic 2.

Students' perception regarding the training course for the construction of prompts in writing production
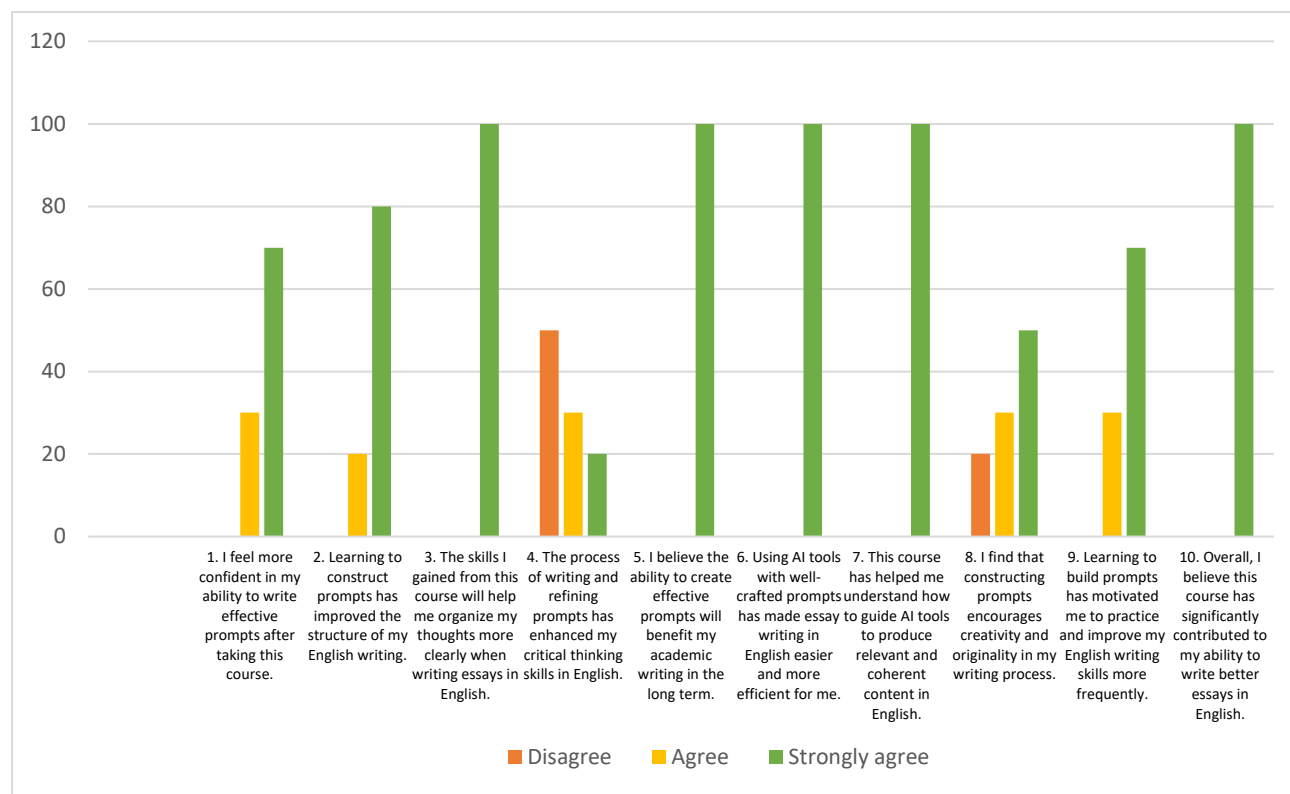
Note. Based on the Likert scale applied to the learners, see Appendix 1.

Errors were identified in the initial written prompts made by learners in the pretest

Seven common errors were identified once the prompts constructed by learners during the pretest were analyzed. Table 1 shows these errors and their frequency.

Regarding the lack of specificity, 90% of the prompts showed unclear instructions. The writing is vague and, in some cases, tends to make overly broad prompts that do not allow comprehensible guidance to the AI, for instance, "*Write about health*" instead of "*Write a 300-word essay on the benefits of regular exercise for maintaining mental health.*"

Regarding ambiguity in the language, most of the participants used unclear and ambiguous language, which led chatGPT to misinterpret the instruction. For example, some participants wrote "Talk about good habits" without specifying whether it refers to health, study, or daily routines.

Overloading prompts with information is not very common; only 35% of the analyzed prompts presented this issue, mainly by including too much information or too many tasks in a single prompt, which often makes it difficult for the AI to structure an answer.

Another problem identified in the prompts is the lack of context and background; most participants fail to provide necessary context or background information, resulting in an incorrect or superficial production. For instance, participants commonly write "Explain healthy habits" without specifying the audience, such as children, adults, or professionals, the context or the purpose.

Moreover, another problem is incorrect grammar and spelling, which confuses the ChatGPT and produces inadequate responses. Listing the standard errors among the participants are:

a. Inadequate use of verbs to direct the order in the prompt.

b. Misspelling of verbs

c. Incorrect selection of prepositions

d. Lack of connectors and linkers to join ideas

e. Absence of commas, semicolons, and periods in the text of the prompt.

The last error identified in the prompts is the lack of specification of the format or structure required. Most participants forget to indicate the response's format, structure, and tone. For example, learners write "Describe healthy habits" without clarifying whether the response is in essay form, a list, a composition, or a formal report.

Table 1.

Common errors identified in the prompts construction during pretest and first stages

Types of errors found in the pre-test related to the writing production	Frequency
Lack of specificity	90%
Ambiguity in language	87%
Overloading prompts with information	35%
Lack of context and background	90%

2269

Poor grammar and spelling	70%
Ignoring structure instructions	95%

Note. Participants were asked to write during the pretest based on the initial prompt.

DISCUSSION

The arrival of technology through artificial intelligence has brought potential opportunities and challenges; in this field, isolating learners from their usage is impossible. Hence, teachers must learn, use, and adapt them to their educational reality. This study demonstrated the potential benefits of promoting writing skills in two ways: through the construction of prompts aligned to the required instruction, and through the production of model texts with this AI. Therefore, the findings of this study is aligned to what Zulfa-Sili et al. (2023) demonstrated, in which Artificial intelligence allowed learners to improve grammar and vocabulary and promote better coherence and cohesion in writing while increasing motivation. The development in writing and the assistance make learners feel their learning process is connected with their current reality and professional demands.

At the same time, Megawati., et al. (2023) indicated that Chat GPT has many useful benefits, which can be observed even in writing more academic texts such as academic papers. Its benefits include drafting articles, providing feedback, and even being a virtual assistant.

However, Despite the benefits, there are ethical issues that need to be considered when using this kind of AI. Hence, it is mandatory to train learners in the best way to use AI while respecting ethical considerations (Shidiq, 2023). In addition, Hutson (2022) indicated negative implications when using Chat GPT when doing creative writing, mainly because this kind of text responds to the creative process and requires continuous guidance during the process.

This study demonstrated that learners are positive about learning how to construct robots adequately. All the responses gathered through the Likert scale indicate their interest and motivation towards the intervention. These findings are related to Zulfa (2023), in which learners demonstrated an improvement in their motivation, autonomy, and self-learning attitude in academic writing tasks after using AI. Also, Rahman et al. (2022) demonstrated that most of the participants possess a positive perception related dot the use of AI in improving their writing skills. In the area of analyzing prompt construction by EFL learners, this area has not been investigated in depth; however, throughout the identification of common errors in the prompt constructed during the pretest it was possible to identify common characteristics in mistakes that are connected to

2270

different situations related to the sentences constructions, the word used to elaborate the prompts, the ambiguity in the message, the lack of well-structured guidelines together with some mistakes in grammatical structure and misspelling words, these findings are aligned with the findings in the study carried out by White, et al., (2023).

CONCLUSION

The findings of this study demonstrate the potential of integrating AI tools, specifically ChatGPT, into EFL instruction to enhance university students' writing skills. The quantitative results from the pretest and post-test revealed significant improvements in students' ability to construct effective prompts, with the mean score increasing by 3.07 points. This improvement, statistically validated by a strong correlation coefficient (r = 0.705) and a p-value of 0.000, indicates the efficacy of the training course in prompt constructions. The training sessions provided a structured approach to developing students' prompt-writing skills, emphasizing clarity, specificity, and grammatical accuracy. Moreover, the study showed that students gained confidence and motivation to practice English writing more frequently, indicating a positive attitude toward learning. This outcome confirms the immediate benefits of AI-assisted learning and suggests long-term potential for achieving more autonomy and enthusiasm in language acquisition.

Despite these successes, the study identified many common errors in students' initial prompts, highlighting EFL learners' challenges in constructing adequate instructions for AI tools. The most recurrent issues included a lack of specificity, ambiguity in language, inadequate context, and poor grammatical structures, with some prompts failing to provide clear guidance on format and tone. Addressing these errors through training proved to impact refining their prompts more effectively. Finally, this study highlights the role of ChatGPT as both a writing assistant and a pedagogical tool for improving prompt construction skills. Educators can ensure that AI-generated outputs meet academic standards and enhance learners' critical thinking and organizational abilities by equipping students with the ability to write precise, well-structured prompts.

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