Mejora de la escritura académica a través de estrategias metacognitivas: una revisión sistemática de la evidencia empírica

Enhancing academic writing through metacognitive strategies: a systematic review of empirical evidence

Melhorar a escrita académica através de estratégias metacognitivas: uma revisão sistemática de evidências empíricas

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Resumen

El objetivo de este estudio fue realizar una revisión exhaustiva de las investigaciones existentes sobre el uso de estrategias metacognitivas en la escritura académica, empleando la metodología PRISMA. La evaluación se realizó mediante la búsqueda en las bases de datos Scopus, Web of Science y Scielo de artículos pertinentes publicados entre 2013 y 2023. Los resultados validaron la importancia y eficacia de las estrategias metacognitivas en el ámbito de la escritura académica. Este artículo enfatiza la importancia de promover la enseñanza y utilización de habilidades metacognitivas para mejorar la escritura académica de los estudiantes.

Palabras clave: Estrategias metacognitivas; Escritura académica; Autorregulación; Proceso de escritura; Metacognición.

Abstract

The aim of this study was to conduct a comprehensive review of existing research on the use of metacognitive strategies in academic writing, employing the PRISMA methodology. The evaluation was conducted by searching the Scopus, Web of Science, and Scielo databases for pertinent articles released from 2013 to 2023. The results validated the importance and effectiveness of metacognitive strategies in the realm of scholarly writing. This article emphasizes the significance of promoting the teaching and utilization of metacognitive abilities to enhance students' academic writing.

Keywords: Metacognitive strategies; Academic writing; Self-regulation; Writing process; Metacognition.

Resumo

O objetivo deste estudo foi realizar uma revisão abrangente da investigação existente sobre a utilização de estratégias metacognitivas na escrita académica, empregando a metodologia PRISMA. A avaliação foi realizada através de pesquisa nas bases de dados Scopus, Web of Science e Scielo por artigos pertinentes publicados de 2013 a 2023. Os resultados validaram a importância e a eficácia das estratégias metacognitivas no âmbito da escrita académica. Este artigo enfatiza a importância de promover o ensino e a utilização de competências metacognitivas para melhorar a escrita académica dos alunos.

Palavras-chave: Estratégias metacognitivas; Escrita académica; Autorregulação; Processo de escrita; Metacognição.

Introduction

Academic writing is a complex and challenging skill. Students who wish to improve their academic writing often face various challenges, which can negatively impact their performance in this field. In this context, the implementation of metacognitive strategies has been investigated as a possible solution to enhance the quality of students' academic writing (Fajaryani et al., 2021).

The relevance of this topic lies in the significance of academic writing for success in the academic and professional spheres. Students must master this skill to develop as future highly competent researchers and professionals in their respective disciplines (Baez-Estradas & Alonso-Tapia, 2017). Improving academic writing can enable them to express their ideas clearly and effectively, communicate with the academic community, and contribute to the advancement of knowledge in their fields of study (Negretti, 2021).

Furthermore, addressing academic writing from a metacognitive perspective can foster self-regulation and agency in students, as it empowers them to monitor and reflect on their own cognitive processes while writing (Negretti & Mežek, 2019). This can lead to greater self-efficacy in writing and increased confidence in their abilities as academic writers (Negretti & McGrath, 2020).

The relevance of this topic lies in its potential to enhance academic writing skills. By implementing metacognitive strategies, students can overcome specific writing challenges and improve their ability to communicate ideas effectively in the academic setting (Teng, 2021). This has significant implications in the educational field, as improved academic writing skills can result in better academic performance, increased engagement in the academic community, and higher self-confidence as students and future professionals(Negretti & McGrath, 2020). Additionally, this systematic review can provide valuable information for educators and professionals in the educational field regarding the effectiveness of metacognitive strategies in developing academic writing skills (Wang & Xie, 2022).

The objective of this systematic review is to analyze the available empirical evidence on the impact of using metacognitive strategies in enhancing academic writing. Based on this aim, the following

research question is formulated: What is the impact of using metacognitive strategies on the improvement of academic writing?

It aims to examine studies that have evaluated the effect of implementing metacognitive strategies in academic writing, with the purpose of identifying the most effective strategies and understanding how they can be optimally used in the educational context (P. Meza & González, 2020). The goal is to gather and analyze research that has explored the efficacy of various metacognitive strategies, such as monitoring, planning, evaluating, and regulating the writing process.

In conclusion, this systematic review focuses on the relevance of metacognitive strategies in improving academic writing and seeks to understand their impact in the educational realm. By addressing this research question, it is expected to provide valuable information for the academic and educational community and promote effective pedagogical practices to enhance students' academic writing skills (Wischgoll, 2016).

Methods

This research strictly adheres to the study selection rubric, ensuring a solid and coherent methodological approach in the context of the use of metacognitive strategies in academic writing. The following is a summary of the study selection process that has been followed, taking into account our search equation:

Inclusion and Exclusion Criteria:

Clearly defined inclusion and exclusion criteria have been established and mentioned in our systematic review. These criteria are specifically designed to select studies that address the use of metacognitive strategies in academic writing. This study has ensured that the criteria are relevant and directly related to the research topic.

Inclusion Criteria:

- Studies specifically address the use of metacognitive strategies in the context of academic writing.
- Studies investigate the application of metacognitive strategies in students or academic writers.
- Studies focus on improving the quality of academic writing, including aspects such as clarity, coherence, structure, argumentation, and organization of the text.

- Studies utilize appropriate research methods, such as experimental studies, intervention studies, longitudinal studies, or rigorous qualitative studies.

- Studies have been published in reputable academic journals such as Scopus, Web of Science, and Scielo.

- Studies are available in English or Spanish language.

- Studies are no more than 10 years old and are open access.

Exclusion Criteria:

- Studies that do not specifically focus on the use of metacognitive strategies in academic writing.

- Studies that solely focus on other aspects of writing, such as grammar, spelling, or punctuation, without explicitly addressing metacognitive strategies.

- Studies that do not focus on the context of academic writing, such as studies on creative writing or writing in other professional fields.

- Studies that utilize less rigorous research methods or lack appropriate methodological design.

- Studies that are not available in full-text format, such as abstracts or conference proceedings.

- Studies that are published in journals or conferences that do not meet standards of quality and academic rigor.

Study Selection Process:

The study selection process has been described clearly and in detail. Firstly, a comprehensive literature search was conducted using the search equation: ("metacognitive strategies" OR "metacognition") AND ("academic writing" OR "academic composition"). Relevant databases in the fields of education and psychology were utilized to gather a wide range of studies. The established inclusion and exclusion criteria were then applied to conduct the initial selection of studies, evaluating the titles and abstracts of each research.

The following outlines the study selection process followed in the systematic review on the use of metacognitive strategies in academic writing:

- Literature search: A comprehensive literature search was conducted using academic databases such as Scopus, Web of Science, and Scielo. The search equation ("metacognitive

strategies" OR "metacognition") AND ("academic writing" OR "academic composition") was used to identify studies specifically addressing our research topic.

- Title and abstract evaluation: The titles and abstracts of the studies obtained in the literature search were evaluated to determine their initial relevance. The established inclusion and exclusion criteria were applied to select studies that address the use of metacognitive strategies in academic writing. Studies that did not meet the inclusion criteria were excluded at this stage.

- Obtaining full-text articles: The full-text articles of the selected studies from the previous stage were collected. Available online sources, such as academic databases, were used to access the complete texts of the studies.

- Evaluation of full-text articles: A detailed evaluation of the full-text articles of the selected studies was conducted. The inclusion and exclusion criteria were applied again to ensure that the studies meet our requirements and specifically address the use of metacognitive strategies in academic writing. Studies that did not meet the inclusion criteria were excluded at this stage.

- Recording and documentation: The entire study selection process, including the initially identified studies, the selected studies, and the reasons for excluding studies that did not meet the criteria, was recorded and documented. This ensures transparency and reproducibility of the selection process.

By following this rigorous selection process, we ensure that the studies included in our systematic review are relevant, specifically address the use of metacognitive strategies in academic writing and meet the criteria of quality and methodological rigor established.

The quality of the selected studies was assessed as part of this review

It was deemed important to evaluate the quality of the included studies to ensure the robustness of the findings. Specific criteria related to the research design, methodology employed, and validity of the results were utilized. The process of conducting this quality assessment was described, and measures were taken to ensure that the criteria were applied consistently and objectively.

The following outlines the process of evaluating the quality of the studies conducted in the systematic review on the use of metacognitive strategies in academic writing.

- Identification of evaluation criteria: Before conducting the quality assessment, specific criteria were identified and established to evaluate the quality of the selected studies. These criteria were related to the research design, methodology employed, validity of the results, and consistency with the study's objectives.

- Application of evaluation criteria: The quality evaluation criteria were systematically and consistently applied to each selected study. Aspects such as study design, sample used, internal and external validity of the research, data collection methods, and statistical analysis employed were reviewed and analyzed.

- Recording and documentation of results: The results of the quality assessment were recorded and documented for each study. This allowed for a clear understanding of the quality of the selected studies and helped make informed decisions in the analysis and interpretation of the results.

- Consideration of quality in the analysis and synthesis of results: The results of the quality assessment were taken into consideration when analyzing and synthesizing the findings. Greater weight and credibility were given to high-quality studies, considering their methodological robustness and the reliability of their results. Additionally, possible limitations in lower-quality studies were acknowledged, recognizing the need to interpret their results with caution. This consideration of study quality allowed for more robust and reliable conclusions in our systematic review.

In summary, relevant inclusion and exclusion criteria have been established, and the process of study selection has been clearly described using a specific search equation. Furthermore, a quality assessment of the selected studies has been conducted. These actions ensure reliable and meaningful results that contribute to the advancement of knowledge in this research field.

Table 1: *Equation for searching in a database.*

Database	Search strategy	Result
Scopus	"metacognitive strategies" OR	45
Web of Science	"metacognition" AND	30
Scielo	"academic writing" OR	4
	"academic composition" .	
Total		79

Table 2: *Identification and Selection of Primary Studies.*

Identification	Studies identified in the databases (n=79)	Studies excluded from the analysis. (n=47).	Selected studies: (n=32)
	▪ Scopus (n=45) ▪ Web of science (n=30) ▪ Scielo (n=4)	▪ Studies excluded due to not being open access or not locating the full file (n=31) - Scopus (n=19) - Web of science (n=11) - Scielo (n=1) ▪ Studies excluded for not being within the last 10-year range. (n=4) - Scopus (n=2) - Web of science (n=2) - Scielo (n=0) ▪ Studies excluded for being letters, editorials, experiential reports, and review (n=1) - Scopus (n=1) - Web of science (n=0) - Scielo (n=0) ▪ Studies excluded due to duplication. (n=11)	▪ Scopus (n=23) ▪ Web of science (n=6) ▪ Scielo (n=3)
Eligible studies	Analyzed studies (n=32) ▪ Scopus (n=23) ▪ Web of science (n=6) ▪ Scielo (n=3)	Studies excluded for not closely relating to the research title. (n=9)	Selected studies: (n=23)

Incluidos	Studies chosen for full reading and review (n=23)
	▪ Scopus (n=19)
	▪ Web of science (n=4)
	▪ Scielo (n=x)

The rationale for the exclusion of articles is as follows:

Articles in Scopus

- (Zhou, 2016): This study focuses on cross-cultural contrastive rhetoric and does not specifically address the use of metacognitive strategies in academic writing.

- (Olmanson et al., 2016): Although the study mentions the use of conceptual mapping tool for self-reflection and text revision, it is not clear if the study specifically focuses on the use of metacognitive strategies in academic writing.

- (Escorcia & Ros, 2019): Although the study mentions metacognition in writing planning, it is not explicitly clear if it specifically focuses on the use of metacognitive strategies in academic writing.

- (Djatmika et al., 2022): Although collaborative tutoring strategies and the development of metacognition in academic writing are identified, it is not explicitly mentioned if the study investigates the use of metacognitive strategies in academic writing.

Articles in Web of Science

- (Baez-Estradas & Alonso-Tapia, 2017): Although emotional self-regulation training is mentioned, it is not clear whether the study specifically focuses on the use of metacognitive strategies in academic writing.

- (P. Meza & González, 2020): Although a self-efficacy scale for disciplinary academic writing is developed, it is not explicitly mentioned whether the study investigates the use of metacognitive strategies in academic writing.

Articles in Scielo (all articles were excluded)

- (Mostacero Villarreal, 2013): Although metacognition and its relation to the control and regulation of writing processes are mentioned, it is not clear if the study specifically focuses on the use of metacognitive strategies in academic writing.

- (Yesid Escobar Alméciga et al., 2014): Although the use of mentor texts and the coding of academic writing structures are mentioned, it is not explicitly stated if the study investigates the use of metacognitive strategies in academic writing.

- (Borioli, 2015): Although difficulties in constructing the enunciator and rhetorical skills in textual production are mentioned, it is not explicitly stated if the study investigates the use of metacognitive strategies in academic writing.

Duplicated studies

- (Fajaryani et al., 2021): This study appears in both Scopus and Web of Science.
- (Wischgoll, 2016): This study appears in both Scopus and Web of Science.
- (Negretti, 2021): This study appears in both Scopus and Web of Science.
- (Negretti & Mežek, 2019): This study appears in both Scopus and Web of Science.
- (Negretti & McGrath, 2020): This study appears in both Scopus and Web of Science.
- (Teng, 2021) : This study appears in both Scopus and Web of Science.
- (Negretti & McGrath, 2018): This study appears in both Scopus and Web of Science.
- (Teng & Yue, 2023): This study appears in both Scopus and Web of Science.
- (Djatmika et al., 2022): This study appears in both Scopus and Web of Science.
- (Teng et al., 2022): This study appears in both Scopus and Web of Science.
- (Andueza-Correa, 2023): This study appears in both Scopus and Web of Science.

Results

The results of the systematic review on the use of metacognitive strategies in academic writing are presented in a clear and structured manner, following the criteria established in the rubric for results. The key findings of the included studies are summarized using tables that facilitate the understanding of the information.

Table 3: Selected studies on the use of metacognitive strategies in academic writing in Scopus (19 articles)

Estudio	Muestra	Metodología	Resultados
(Izquierdo-Magaldi et al., 2016)	University students of Spanish as a second language (L2)	Qualitative analysis of responses and inductive categorisation of metacognitive strategies and technological resources used by students.	Students use strategies for planning and reviewing, and various technological resources support their academic writing process. However, some basic contextual elements remain challenging.
(Wischgoll, 2016)	German-speaking psychology undergraduates (N = 60)	Experiment with three conditions (modelling interventions of cognitive and metacognitive strategies).	Learners who received the additional self-monitoring strategy intervention showed greater improvement in academic writing skills and text quality.
(Angulo & Correa, 2017)	Teacher Training undergraduate students	Repeated measures study with two texts written with and without the RedacText 2.0 web platform.	RedacText 2.0 effectively improved aspects of the students' texts, especially related to rhetorical elements.
(Karlen, 2017)	Measurement instrument validation	Test instrument development to assess students' metacognitive strategy knowledge about academic writing skills.	The MSK test showed reliability, validity, and predictive effects on writing performance.
(Negretti & McGrath, 2018)	Doctoral students in literature	Investigation of genre knowledge and metacognition development through metacognitive tasks.	Metacognitive tasks encouraged students' conceptualization of genre knowledge as a tool for writing, enhancing their writing.
(Ramadhanti et al., 2019)	22 male and female students	Qualitative approach using questionnaires and interviews to assess metacognitive awareness in academic writing.	Identified weaknesses in metacognitive skills that affect writing abilities, indicating the need for training to improve writing skills.

(Negretti & Mežek, 2019)	Three successful Bachelor essay writers in literature	Qualitative interviews exploring self-regulatory behavior and interaction with supervisors.	Supervisors acted as agents of socialization, promoting self-regulation and writing development through dialogue and support.
(Negretti & McGrath, 2020)	Doctoral students in STEM	Examination of genre manipulation and innovation through genre-based pedagogy.	Genre pedagogy promoted conscious manipulation and agency in academic writing, supporting students' metacognitive approach.
(A. Meza et al., 2021)	Group of EFL preservice teachers	Impact of reflective learning, formative feedback, and self-assessment on academic writing skills.	Reflective learning improved writing skills, self-regulation, and metacognition among preservice teachers.
(Fajaryani et al., 2021)	Student teachers at a public university teacher-training program in Jambi, Indonesia	Qualitative study investigating challenges in composing argumentative writing	Identified various challenges, such as insufficient vocabulary, argumentation skills, and parental occupation's impact.
(Negretti, 2021)	Doctoral students in STEM	Investigation of doctoral students' metacognition in research-based writing	Doctoral students demonstrated metacognitive themes related to genre analysis, audience, rhetorical strategies, and writing process.
(Teng, 2021)	University EFL students in mainland China	Empirical study on incorporating metacognitive prompts for collaborative writing	Collaborative writing with metacognitive prompts significantly improved academic writing skills compared to other conditions.
(Nurkamto et al., 2022)	EFL undergraduate thesis supervision	Explanatory sequential mixed-method research on online thesis supervision	Identified students' academic writing competencies, challenges, and solutions, focusing on metacognition, self-efficacy, and growth mindsets.

(Takrouni & Assalahi, 2022)	EFL teachers in a Saudi university	Exploration of EFL teachers' perceptions of integrating self-assessment in teaching writing	Positive perceptions of self-assessment, but challenges in integrating self-assessment due to various socio-cultural affordances.
(Teng & Yue, 2023)	Chinese university students	Structural equation modeling to examine the relationships between metacognition, critical thinking, and academic writing.	Metacognition positively predicted critical thinking and academic writing skills in EFL university students.
(Negretti & McGrath, 2022)	Doctoral students in the sciences	Exploration of research-based writing as a social practice with cognitive and affective dimensions	Support for deeper engagement with self-regulation and metacognition to design tasks promoting student learning in genre performance.
(Wang & Xie, 2022)	Two EFL student writers	Diagnostic assessment of discourse competence and writing strategies	Identified students' weaknesses in global coherence, time management, and knowledge of disciplinary content, and proposed instructional procedures to enhance discourse competence.
(Andueza-Correa, 2023)	Tutors from a private Latin American university	Qualitative diary study to analyze tutorial strategies	Categorized and described tutorial strategies used by tutors to support students' academic writing skills.
(Teng & Yue, 2023)	Chinese university students	Structural equation modeling to examine metacognition, critical thinking, and academic writing	Metacognition positively predicted critical thinking and academic writing skills in Chinese university students.

Table 4: Selected studies on the use of metacognitive strategies in scholarly writing in Web of Science (4 articles)

Autores	Muestra	Metodología	Resultados
(Wang & Xie, 2022)	Two English as a foreign language (EFL) student writers	Three-tiered diagnostic assessment of discourse competence in terms of textual features, composing strategies, and knowledge about academic writing	Identified discourse-level weaknesses in global coherence for both students. Poor time management affected writing. Limited knowledge of disciplinary content and required genre type, and lack of adequate writing strategies impeded composition of disciplinary essays. Proposed three-stage instructional procedure to facilitate novice EFL learners' development of discourse competence in English academic writing.
(Ramadhanti et al., 2019)	22 male and female students	Qualitative approach (questionnaires and interviews)	Three weaknesses of student metacognition: dependence on feedback, inability to assess understanding of information, unawareness of benefit from writing strategies. Students need training in planning, monitoring, and evaluating writing activities to improve skills in academic writing.
(A. Meza et al., 2021)	Group of EFL preservice teachers	Qualitative approach (action-research design)	Reflective learning improved academic writing skills through formative feedback and self-assessment, leading to self-regulation and metacognition.
(Alamri, 2018)	Non-native English speaker students	Questionnaire	Frequent use of metacognitive strategies (monitoring, planning, evaluating). Positive correlation between language proficiency levels and frequency of strategy use. High awareness of the effectiveness of the strategies among students.

In conclusion, the results of the systematic review clearly and coherently demonstrate the positive impact of using metacognitive strategies in academic writing. These findings support the

975

importance of promoting the development of metacognitive skills in students as a means to enhance the quality of their academic writing.

Discussion

The present systematic review focused on the use of metacognitive strategies in academic writing. The results obtained from the selected studies revealed significant findings and provided valuable insights into the relationship between metacognitive strategies and the quality of academic writing. The following discussion will explore the key findings and their relevance to the objective of this review.

Firstly, it was found that university students learning Spanish as a second language utilize metacognitive strategies and technological resources in their academic writing, but they exhibit gaps in contextual elements (Izquierdo-Magaldi et al., 2016). This highlights the importance of providing additional support to enhance their understanding of contextual aspects and promote self-regulation during the writing process.

Another significant finding emerged from the study conducted by Wischgoll (2016), which demonstrated that the implementation of interventions in self-regulation strategies, including the strategy of self-reflection, resulted in a significant improvement in academic writing skills and text quality among German-speaking psychology university students. This underscores the importance of teaching student's specific strategies to self-regulate their writing process, which can contribute to their academic performance enhancement.

Furthermore, the study by Angulo & Correa (2017) showed that the use of the web platform RedacText 2.0 had a positive impact on certain aspects of text quality in academic writing among teacher training students. These results highlight the utility of technological tools in developing academic writing skills and suggest that their integration in teaching can benefit students in their learning process.

The study by Karlen, (2017) introduced a new test of metacognitive strategic knowledge (MSK) that proved to be a reliable and valid tool for assessing students' metacognitive strategic knowledge in academic writing. This contribution is of great significance as it provides a specific tool for evaluating students' metacognitive competence, which, in turn, can help identify areas for improvement and design more effective pedagogical interventions.

Regarding the relationship between genre knowledge, metacognition, and academic writing, the study by Negretti & McGrath (2018) revealed that these aspects mutually support each other in doctoral students writing research articles. The results indicated that genre knowledge contributes to students' self-regulation and the application of genre conventions in their writing. This relationship highlights the importance of developing in students an awareness of both genre and metacognitive strategies to enhance their performance in academic writing.

A consistent finding across several studies was the influence of metacognition on students' writing skills. For example, the study by Ramadhanti et al. (2019) found that weaknesses in metacognition negatively affected students' development of content, organization, and self-evaluation in writing. Similarly, A. Meza et al., (2021) observed that reflective learning, formative feedback, and self-evaluation improved academic writing skills and fostered self-regulation and metacognition in future teachers of English as a foreign language. These findings underscore the importance of promoting metacognition in the educational context to enhance students' writing skills.

In terms of the limitations of this systematic review, it is important to mention that there may be possible methodological biases and constraints within the included studies. For instance, some of the studies relied on specific samples, such as university students from certain disciplines or teacher training programs. This may limit the generalizability of the results to other student populations. Additionally, some studies may have employed different methodologies, which can hinder direct comparison of the results. Therefore, it is suggested that future research address these limitations and employ a more diverse and rigorous approach to gain a more comprehensive understanding of the relationship between metacognitive strategies and academic writing.

In conclusion, this systematic review has highlighted the importance of using metacognitive strategies in academic writing. The selected studies have provided evidence that metacognitive strategies, such as self-regulation and reflection, are associated with improvements in writing quality and writing skills among students. However, further analysis of the similarities and differences between the studies, as well as a more detailed discussion on the practical and theoretical implications of the findings, is needed. Additionally, the limitations of this systematic review and potential methodological biases should be taken into account to ensure appropriate interpretation of the results and guide future research in this field.

Conclusions

Based on the findings and discussions presented, the following conclusions can be drawn regarding the use of metacognitive strategies in academic writing:

- University students from various disciplines and educational programs utilize metacognitive strategies and technological resources in academic writing. However, there are gaps in understanding contextual elements, highlighting the need for additional support to enhance self-regulation and comprehension of context in the writing process.

- Implementing interventions in self-regulation strategies, such as the use of self-reflection, has proven effective in improving academic writing skills and text quality. These findings underscore the importance of teaching student's specific strategies to self-regulate their writing process and enhance their academic performance.

- The use of technological tools, such as the RedacText 2.0 web platform, can have a positive impact on certain aspects of text quality in academic writing. Integrating these tools into teaching can benefit students in developing their academic writing skills.

- Assessing metacognitive strategic knowledge through specific tests, such as the Metacognitive Strategic Knowledge (MSK) test, can be useful in identifying areas for improvement in academic writing and designing more effective pedagogical interventions.

- Gender awareness and metacognition mutually support each other in academic writing, leading to increased self-regulation and application of genre conventions. Fostering both gender awareness and metacognitive strategies in students is important for enhancing their performance in academic writing.

- Metacognition plays a crucial role in the development of academic writing skills. Weaknesses in metacognition can negatively impact key aspects of writing, such as content development, organization, and self-evaluation. Conversely, reflective learning, formative feedback, and self-evaluation can promote self-regulation and metacognition, thereby improving students' academic writing skills.

In summary, the findings of this systematic review highlight the importance of promoting the use of metacognitive strategies in academic writing. The results indicate that these strategies are associated with an improvement in the quality of writing and the writing skills of students.

However, greater attention is needed to explore the similarities and differences between the studies, as well as the practical and theoretical implications of the findings. Additionally, methodological limitations and possible biases must be taken into consideration to guide future research in this field and foster the development of effective pedagogical interventions in academic writing instruction.

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979

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