

# **Prompt Literacy as an Enhancer of Students' Academic Writing in Higher Education Institutions: A Systematic Literature Review**

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## **Abstract**

Prompt literacy has emerged as a pivotal concept in academic writing, particularly within higher education. This systematic literature review (SLR) critically examines and synthesizes research conducted between 2020 and 2025 on using prompting strategies to enhance academic writing among university students. The review aims to identify the types of prompts employed, evaluate their pedagogical effectiveness, explore the contexts of their implementation, and assess the outcomes associated with their use. The SLR followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology, encompassing four key stages: data search and collection, selection criteria, data extraction, and data analysis. A two-stage screening process—pre-screening and final eligibility selection—was applied to ensure the inclusion of relevant studies. Findings reveal that 40.5% of the reviewed studies (n=17) adopted a mixed methods research design, reflecting a growing trend toward integrating qualitative and quantitative insights. A central theme across the literature is the critical role of prompt formulation in maximizing the benefits of AI technologies for academic writing. Effective prompts significantly enhanced students' engagement, critical thinking, and writing proficiency. The review also highlights the CLEAR framework as a guiding model for implementing prompting strategies, with implications spanning pedagogical practices, technological integration, and institutional policy development. This review underscores the transformative potential of well-designed prompting strategies in higher education. It calls for a more nuanced understanding of prompt literacy as a foundational skill in the digital age, advocating for targeted interventions and policy support to foster its development. The findings contribute to the growing knowledge of academic writing enhancement and provide actionable insights for educators, instructional designers, and policymakers.

## **Introduction**

Currently, artificial intelligence (AI) and generative AI (GenAI), alongside a wide range of digital tools, are revolutionizing the higher education landscape and reshaping our engagement with technology (Bushuyev et al., 2024; Chiu, 2023; Moorhouse et al., 2023). This transformation is evident in several key academic areas, including personalized learning (Bushuyev et al., 2024), enhanced academic writing support (Ozfidan et al., 2024), the development of critical thinking skills (Darwin et al., 2024), automated and real-time assessment and feedback (Darwin et al., 2024), expanded access to human knowledge research (Colther & Doussoulin, 2024), advanced data analysis (Kosuru et al., 2024) and improved administration efficacy (Kumar et al., 2024). Referring to its value in academic writing, Ozfidan et al. (2024) stated further that “AI in academic writing can improve student work quality and expedite the writing process” (p. 1). However, this exercise of generating responses is a highly multifaceted cognitive process. Therefore, framing our questions (prompting) has become just as important as the answers we seek. Consequently, our prompting- which refers to designing inputs or purposeful cues that guide large-learning models (LLMs) to produce desired outputs (Higginbotham & Matthews, 2024) should be well-calibrated.

Prompt literacy can be regarded as a critical AI-powered “currency” that has become increasingly important in academic writing, but as a 21st-century skill. For example, prompts can assist students in identifying applicable literature while providing translation and interpretation to help overcome language barriers (Kim et al., 2025). Along the same lines, Wallbank (2023) opined that prompt literacy can be a critical enabler for students to navigate and evaluate outputs. Moreover, Higginbotham and Matthews (2024, p. 1) emphasized that “by providing clear and contextually rich prompts, users can enhance the model’s performance across various tasks, including creative writing.” It is important to recognize that academic writing, as Abdulrahman (2023) noted, is a comprehensive process encompassing various descriptive, analytical, critical, and persuasive writing styles, each demanding multiple cognitive processes and capacities. Therefore, prompt literacy could be a “critical enabler” in supporting academics and students. Recognizing these, it becomes evident that prompt literacy skills are crucial to harness the transformative attributes of GenAI in educational contexts (Cain, 2024). In practical terms, prompt literacy can be a powerful pedagogical tool as it can guide student thinking, encourage higher-order thinking skills, support structure and coherence, and help students overcome challenges such as writer's block. Scholars alluded that this creates opportunities to address these difficulties and support students in writing aspects such as proofreading, structuring an outline, grammar correction, content organization, and idea generation (Kim et al., 2025; Ozfidan et al., 2024). Scholars argue that prompt literacy enables students to use natural language to effectively guide generative AI, fostering creativity and organization while also helping them critically assess AI outputs (Hwang et al., 2025; Kim et al., 2025; Ozfidan et al., 2024; Wallbank, 2023).

Effective, prompt formulation emerged as a key prerequisite for unlocking Gen Ai's full potential and enhancing academic writing skills. In this regard, Maloy and Gattupalli (2024)) viewed its importance, explaining the following: “Crafting effective prompts is akin to providing a skilled artisan with the precise tools and clear instructions to create a masterpiece” (p. 212). According to Deng et al. (2023), prompts should be specific to generate targeted responses. Another factor to be considered is to provide enough background information, as context helps GenAi to understand the scope and relevance of the task (Ronanki et al., 2023). Maloy and Gattupalli (2024) also suggested that writers use simple language, define task limits, and evaluate prompts to prevent generating irrelevant content. Prompts should also be refined to improve responses and accuracy (Jacobs & Fisher, 2023; Wang et al., 2023). Furthermore, thoughtful

prompt literacy encourages users to carefully consider how they frame questions to avoid bias, misinformation and the misuse of AI tools. One of the most significant advantages of prompt literacy is that it develops students' digital literacy skills, which are considered key AI skills in educational research.

The emphasis on thoughtful prompting refinement is widely acknowledged in the literature. For instance, Maloy and Gattupalli (2024, p. 213) opined that “navigating the intricacies of GenAI requires more than a rudimentary understanding of technology; it demands proficiency in prompt literacy.” In this engaging dialogue between humans and machines, it is therefore suggested that structured models may help users craft more effective prompts and critically evaluate AI-generated content. To support this dialogue, the literature indicates three pertinent models that offer a roadmap to clarity and efficacy. These are the CAST model (Jacobs & Fischer, 2023), the CLEAR model (Lo, 2023), and the TRUST model (Trust, 2023), which could guide researchers in formulating prompts with AI tools that can assist significantly with academic writing (Maloy & Gattupalli, 2024). A recurring prompting can address a variety of challenges in academic writing. The theme in the prompting discourse is that although GenAI, through prompting, can address a variety of challenges in academic writing, it also presents new challenges, especially in terms of ethics, plagiarism, biases and over-reliance on GenAI (Ozfidan et al., 2024). To this end, Kim et al. (2025) alerted us that a complete understanding of how students wrestle with these risks remains scant. This study explores how effective prompting can enhance academic writing capabilities, a key aspect of research (Khalifa & Albadawy, 2024). For this to happen, a solid understanding of the concept of prompt literacy, which according to Maloy and Gattupalli (2024, p. 211) "requires learning how to formulate instructions for AI in its processing language. It is a bridge crafted from everyday language, enabling users to guide AI through tasks with simple, direct commands," and all delivered through interactive, human-like conversations (Raheem et al., 2023; Wang, 2024). However, a necessary condition is that students should possess sufficient AI literacy skills, which could enable them to develop higher-quality prompts and better-quality feedback (Kim et al., 2025).

This Systematic Literature Review (SLR) aims to critically examine and synthesize existing research on using prompting strategies to enhance academic writing among students in higher education institutions. To achieve the aim, research questions (RQs) are formulated:

- RQ1: What is the conceptual understanding of prompt literacy as depicted in the CLEAR Framework?
- RQ2: What are the key findings from the literature on the effectiveness of prompting in enhancing students' academic writing skills in higher education?
- RQ3: How do the types of prompts impact the quality of academic writing among higher education students?

### **Significance and Contribution of the Study**

This study could make several valuable scientific contributions. First, it could contribute to education, linguistics and academic writing. One of its key significances is to be seen in its effort to clarify central concepts in the study. For this reason, the authors provided conceptual clarification on "prompting" and "prompt literacy", aiming to establish an unambiguous, shared academic vocabulary for future research. Also, through the systematic review of existing studies, we collated findings on how prompt literacy affects academic writing practices among Higher Education students. The SLR provided the authors with an extensive overview of the gaps in this field.

Furthermore, this study identified interesting and timely pedagogical insights into effective teaching strategies to prompt literacy for improved academic writing practices and outcomes. Therefore, we believe it contributed to curriculum design concerning writing instruction in higher education, informing institutional policies on academic writing support. This study also holds significance for the South African higher educational context, which is particularly characterized by its highly multilingual and culturally diverse academic environment. To this end, it will teach students how to formulate effective prompts regardless of their first language.

## Method

This systematic literature review (SLR) was carried out in four stages: data search strategy and collection, data selection criteria, data extraction, and data analysis. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) were used to execute the SLR.

### *Data search strategy and collection*

In April 2025, we searched the following two online databases and a search engine: Scopus, Web of Science, Scispace and Google Scholar. At first, we searched “prompting,” “prompt literacy,” “prompt engineering,” “and academic writing,” but this strategy did not produce enough suitable articles, so we added the term ‘types of prompting.’ To minimize the chance of missing relevant articles, the scope was broad. It included the following keywords and Boolean operators: ‘students OR teacher education OR higher education’ AND ‘academic literacy’—inclusion and exclusion criteria. The electronic literature search was limited to English full-text studies published between 2020 and 2025. Only articles that met the following inclusion criteria were selected: peer-reviewed, empirical studies focusing on prompting in academic writing published in academic education, including all disciplines that discussed interventions employing prompt literacy as a strategy in academic writing. This SLR excluded literature reviews and case studies, studies that did not focus on academic writing, and studies that only addressed the main topics’ online, digital, or ICT aspects.

Table 1: Search categories.

Search categories	Search terms
Academic writing	“Academic writing”
AI literacy	“AI literacy” OR “large language models” OR Natural Language Processing”, “functional AI literacy”, “Critical AI literacy”, OR “Sociocultural AI literacy”
Prompt literacy	“Prompt engineering” OR “Prompting” OR “Prompt literacy” OR GenAI-assisted learning OR CLEAR prompt framework

### *Data selection*

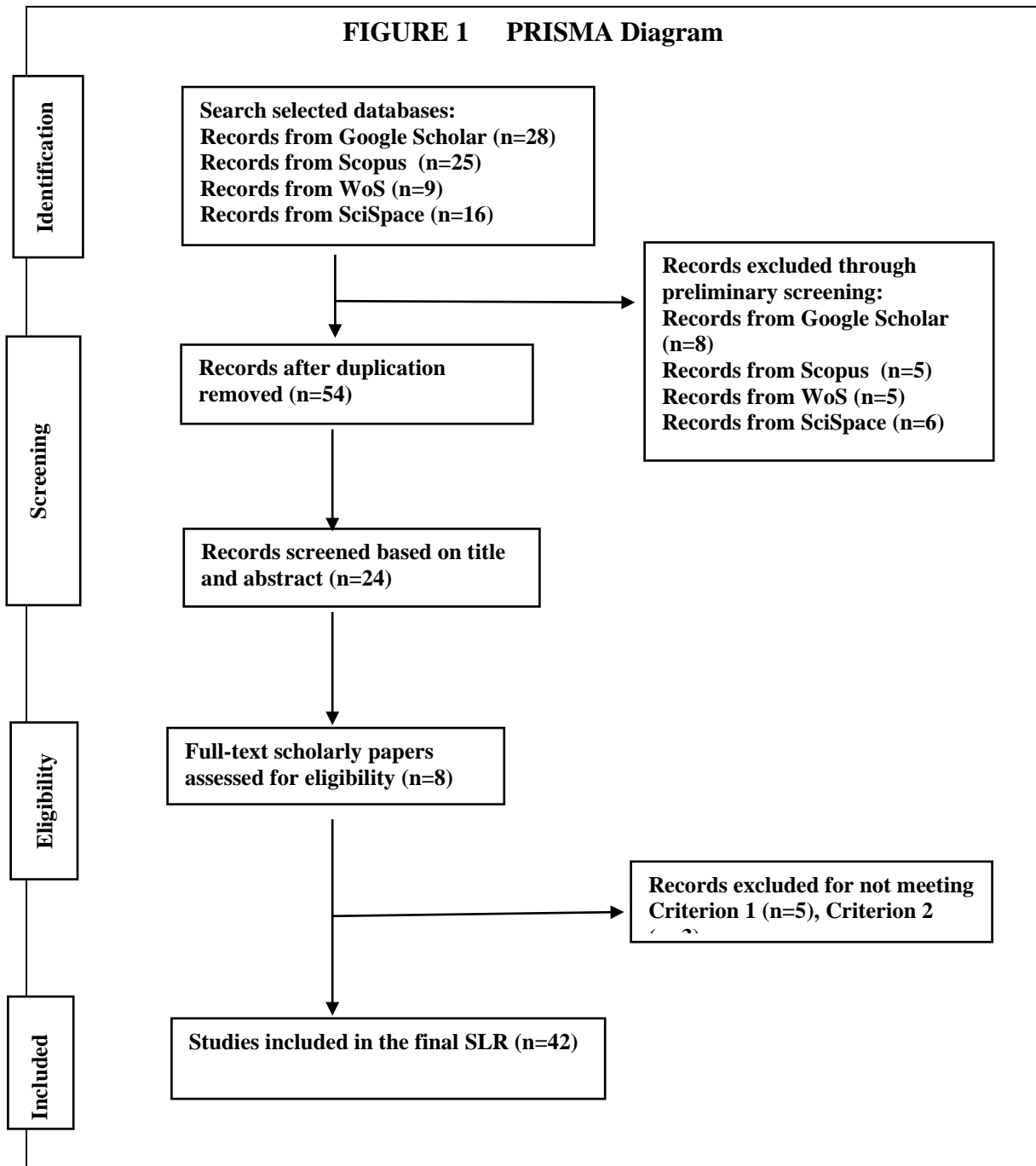
Under this methodology, focus on inclusion and exclusion criteria for the two-stage process: pre-screening of publications (2020-2025) and an eligibility final selection of publications (scholarly articles and academic book chapters). First, identification screening of eligibility records was identified through database searches (N =78). Records remaining after removal of duplicates

(N = 24) were based on the titles and abstracts, based on the inclusion and exclusion criteria. Further assessed for eligibility, n=12 were excluded. The final recorded selection was n= 42 (see Figure 1 of PRISMA structure).

*Table 2: Inclusion and exclusion criteria.*

Inclusion criteria	Exclusion criteria
Empirical studies (only articles, academic book chapters, and conference proceedings) investigate students using prompt literacy in academic writing at higher education institutions (2020-2025)	Review studies, conference abstracts, book reviews, theses, dissertations, conceptual papers, opinion papers, editorials, and comments.
The primary focus is on Undergraduate and Postgraduate studies using prompting in academic writing by UG and PG students in HEIs (private and public universities).	Primary and secondary schools, TVET College, and technical colleges.

Data extraction



The first author performed the search, yielding records. After the removal of duplicates, the titles and abstracts of the remaining records were screened against the inclusion and exclusion criteria. The resulting records contained the topics ‘prompting,’ ‘academic writing,’ ‘students’ and “higher education.” Further eligibility was subsequently assessed by reading the full articles on this list. After this phase, articles remained for consideration. Of those, only articles that discussed a feedback intervention involving ‘prompt literacy’ before submission of an academic writing

assignment were included. As a result, the final review was based on studies listed in the References. The data extraction process occurred in two stages: (1) demographic information (per study analysis per year for prompt literacy), capturing scholarly publications details (title, year, country, article type), educational context (contexts, field of study, discipline), and research design and methodology; followed by (2) detailed data extraction (per case analysis) for some studies involving types of prompt Literacy (CLEAR framework) for academic writing cases, organized into categories (research design; sample and contexts, CLEAR framework, type of prompting in studies or discipline)

Table 3: Detailed data extraction categories.

Research design	Sample and context	CLEAR Framework	Type of prompting
Specific research approaches employed (quantitative, qualitative, mixed-methods design)	Sample size, time duration and contextual factors	Undergraduates or postgraduates use CLEAR principles in prompt writing	Examples of prompting in discipline or specialisation of study

### ***Data analysis and identification***

The analysis employed distinct coding schemes for each research question: (1) For RQ1, descriptive analysis and keyword frequency analysis identified key trends in undergraduate (UG) and postgraduate students (PG); (2) For RQ2, we first categorized the prompt literacy and academic writing according to types of prompts employed by the registered student (CLEAR Framework used by UG and PG), then employed an inductive approach to identified pedagogical approaches that address each type of prompt literacy.

## **Results**

### ***Key trends of scholarly publications on prompt Literacy (RQ1)***

This section analyses publications on prompt literacy in undergraduate and postgraduate studies, yearly trends, global distribution, and research methods at HEIs. The studies on prompt literacy were downloaded as data sources and search strategies (n=78).

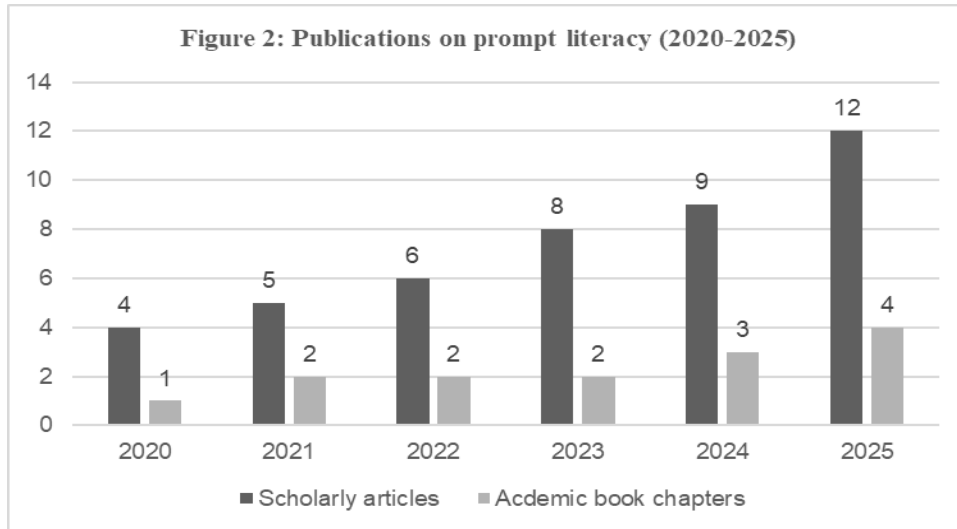


Figure 2 shows a gradual increase in studies published (n=78) on prompt literacy that was applied in academic writing by students at HEIs (2020-2025). The data source and search strategy were employed after eliminating unqualified sources (n=78 minus 20 = 58); for this SLR, only 44 articles and 14 academic book chapters were included in the final appropriate articles (Figure 2). A similar SLR study by Castillo-Martínez and Ramírez-Montoya. (2021) reported students' reading and writing competencies using prompting in HEIs. However, the SLR focused on years of selected studies ranging from 2015 to 2019, focusing on academic reading and writing, which fall outside this study. A recent Chinese study by Kim et al. (2025) reported using various prompt patterns by students using a GenAI-assisted learning approach.

Table 4: CLEAR Framework for prompt literacy (n=19).

CLEAR Framework	n	Studies	Type of Prompt writing
Concise	6	Schmidt, et al. (2023); Cain (2023); Lo, 2023; Jin et al. (2025), Hwang et al. (2024); van Wyk (2025)	Few-shot prompts, specific prompts, conversational chat prompts,
Logical	4	Denny, et al. (2022); Lo, 2023; Hwang et al. (2024); Guo & Lee (2023)	Meta-prompt, goal-aligned prompts, argumentative prompt
Explicit	4	Elnashar, et al. (2025); Schmidt et al. (2023); Lo, 2023; van Wyk (2024)	Zero-shot prompt Meta-prompt Descriptive prompt
Adaptative	3	Rad & Jafarpour (2022); Lo (2023); Jin et al. (2025)	Few-CoP Shot: Instruction-based prompt, scaffolding prompt,
Reflective	2	Lo, 2023; van Wyk, 2025	Reflective prompt

Table 4 provides information on the use of the CLEAR framework. This framework was used to critically examine and synthesize existing research on prompting strategies to enhance academic writing among students in higher education institutions.

Table 5: Research methods applied in prompting literacy studies (n=42).

Research Method and Design	n	Studies on prompt literacy	Data collection instruments and analysis
Mixed methods design	17 (40.5%)	Hwang (2023); Knoth et al. (2025); Amin et al. (2025); Yan (2025); Alsofyani et al. (2025); Shi et al. (2025); Hwang et al. (2025); Mohamed Ali El Deen & Abdelwahab Mahmoud (2025); Guo & Wang (2025); Lee & Palmer (2025); Jin et al. (2025); Mzwri & Turcsányi-Szabo (2025); Xiao et al. (2025); Bland (2025); Chen & Gong (2025). Tzirides et al. (2024); Andreadis et al. (2024)	survey, document and content analysis, meta-analysis, meta-analysis, convergent analysis, Meta-analysis, closed structured questionnaire, in-depth interviews, observations, Wilcoxon rank sum tests and intraclass correlations, comparative analysis, pre- and post-test quantitative data
Qualitative	15 (35.7%)	Abdi Tabari & Wang (2022); Baier & Brehm (2022); Cain (2023); Denny et al. (2022); Jacobs & Fisher (2023); Kim et al (2025). Moundas et al. (2024). Van Wyk (2025); Olea et al. (2024), Perkins et al (2024), Schmidt et al. (2023), Schmidt et al (2024), White et al (2023); Wang & Wang (2025); Knoth et al. (2024)	Semi-structured interviews, focus groups, thematic analysis, content analysis, systematic review, scoping review, interpretative phenomenology, NVivo 14.0, Atlasti; AI-detectors;
Quantitative	10 (23.8%)	Elnashar et al. (2025); Liu et al. (2025); Lunrasri et al. (2022); Miyazoe (2025); Nazari & Saadi (2024); Schulhoff (2024); Shyr et al. (2024), Cao et al. (2025); Lunrasri et al. (2022); Wang et al. (2023)	The closed-structured questionnaire, survey, descriptive statistical analysis, inferential statistical analysis, Meta-analysis, Turnitin-AI detection, SPSS, and quasi-experimental.

Table 5 shows the research methods applied in each study (n=42). Most (40.5%) studies employed a mixed methods design approach (n=17). Then followed by fifteen qualitative studies (n=15) (35.7%). Finally, ten (n=10) studies employed a quantitative approach (23.8%). These studies design data collection instruments (surveys, interviews, focus group discussions, observations, systematic reviews, scoping reviews) and data analysis procedures (content analysis, meta-analysis, thematic, thematic analysis, content analysis). The qualitative studies used AI-assisted tools such as NVivo 14.0 and Atlas. ti for thematic analysis. On the other hand,

quantitative studies used specific AI-assisted software, such as Turnitin-AI-detection, to prevent plagiarism and cheating.

***Key findings from the literature on the effectiveness of prompting in enhancing students' academic writing skills in higher education (RQ2)***

The reviewed studies below (Table 6) demonstrated the significant role of prompting in enhancing academic writing practices and, thus, outcomes. As the study of Denny et al. (2022) showed, prompt engineering is practical, especially when relevant and approached to be context-specific. The study of Khlaif et al. (2023), on the other hand, showed that this approach will ensure that academic content is of high quality. It was interesting to note, though, that prompting also has limitations. To this end, Hwang and his colleagues (2024) alluded to the issue of students' tendency to use generic prompts coupled with a largely surface-level approach when doing revisions in their writing assignments. Another point of concern in the prompting exercise concerns safeguarding academic integrity. In this regard, Perkins et al. 2023 cautioned us that there are many challenges in upholding reliability despite advanced prompting techniques.

Table 6: Effectiveness of prompting in enhancing students' academic writing skills.

Studies	Subject/Discipline	Design and Methodology	Main findings
Denny et al. (2022)	Evaluations of code generation models in educational contexts	Evaluation conducted on Hosrtmann's CodeCheck exercises in Python. Used test bank of all 'programming problems' available in Python.	The study highlights the potential of AI tools in education while emphasizing the importance of teaching students how to effectively use tools to improve their coding skills and problem-solving abilities.
Khlaif et al. (2023).	Using AI in scientific research.	Generated articles using ChatGPT. Evaluated quality by 23 reviewers.	ChatGPT generates high-quality research articles with detailed prompts. Concerns exist around ownership and integrity when using AI-generated text.
Rad and Jafarpour (2022).	Writing achievement and enhancement.	Two intact classrooms were selected for the study. Data were gathered through writing tasks and questionnaires.	Positive emotion interventions have a positive and significant effect on L2 learners' well-being, grit, emotion regulation, and resilience in a writing classroom. Developing positive psychology

			improves educational and personal outcomes.
Perkins et al (2023).	Educational Technology in Higher Education.	Double-masked Experiential Design.	Although the AI detection tool identified 91% of the experimental submissions as containing AI-generated content, only 54.8% was identified as AI-generated, underscoring the challenges of detecting AI content when advanced prompting techniques are used.
Hwang et al. (2024).	Prompting behaviours during ChatGPT-assisted writing and revision and its quality on writing quality.	One-group pretest and post-test Design. Mixed method design.	Learners predominantly focused on surface-level features displayed a lack of prompt approaches, and often employed general, one-size-fits-all prompts that did not align with their specific objectives.

**Studies on typologies of prompt literacy for academic writing (RQ3)**

This section analyses publications on typologies of prompt literacy used for academic writing in HEIs. We had analyzed fifty-eight publications, and only thirty-six were “relevant” to be included in the typologies of prompt literacy.

Table 7: Typologies of prompt Literacy in academic writing (n = 36).

Typologies of prompting	N	Studies	AI tools for prompting
Structure and Organization Prompts	15 (42.9%)	Song & Song (2023); Widiati et al. (2023); Guo & Lee (2023) Abdi Tabari & Wang (2022); Bushuyev et al., (2024); Chiu (2023); Moorhouse et al., (2023); Baier & Brehm (2022); Castillo-Martínez & Ramírez-Montoya (2021); Khlaif et al. (2023); Knoth et al. (2024); Liu et al. (2025); Lunrasri et al. (2022); Moundas, et al (2024); Olea et al. (2023)	ChatGPT is used for writing instruction, scaffolding writing, and performance evaluation; ChatGPT is used for prompt engineering strategies; reading Literacy; ChatGPT4.o structured text.
Thesis Development Prompts	3 (8.6%)	Song & Song (2023); Abdi Tabari & Wang (2022); Cain (2023)	ChatGPT –academic writing
Critical Thinking and Analysis Prompts	8 (22.2%)	Eager & Brunton (2023), Salvagno et al. (2023) Denny et al. (2022); Hwang (2025); Jacobs & Fisher (2023). Kim et al. (2025); Wallbank, et al. (2023); Moorhouse et al. (2025)	ChatGPT- prompt writing; ChatGPT/DALLE for English education
Academic Style and Tone Prompts	10 (28.6%)	Guo & Lee (2023), Dergaa et al. (2023); Perkins (2023); Gattupalli et al. (2023); Jacobs & Fisher (2023); Perkins (2023), Gattupalli et al. (2023); Nazari & Saadi (2024); Raheem et al. (2023); Anon (2025)	ChatGPT for argumentative writing; Grammarly, Copilot for English writing; Economics Education

As detailed in Table 7, sixty-two per cent (62.0%) of studies reported specific typologies employed on prompting literacy for academic writing in HEIs (n=36 out of 58). Data detailing the typologies of prompt literacy shows that 42.9% (n=15) of studies were published based on Structure and Organisation Prompts, followed by twenty-nine per cent (n=10) related to the typology, Academic Style and Tone Prompts. Only nine percent (n=3) of studies were published on Thesis Development Prompts. Finally, fifty-eight percent of publications focusing on ChatGPT3.5, Grammarly, CoPilot, and ChatGPT4.0 as AI prompt literacy tools were published in 2023 (n=21 out of 36).

## Discussion

Based on the title of this SLR, scholars have extensively published on the concept of academic writing (Junina et al., 2025; Lilia & Elena, 2022; Paltridge, 2004). This phenomenon is a formal and evidence-based mode of communication used within scholarly contexts to convey complex ideas, research findings, and critical analyses. It is characterized by a structured format, objective tone, precise language, and the systematic use of sources to support arguments. According to Kaya and Yağız (2023), academic writing must adhere to the organization and the avoidance of personal bias to ensure clarity, credibility, and intellectual rigour to specific conventions, including citation styles, logical organization, and the avoidance of personal bias, to ensure clarity, credibility, and intellectual rigour (Hyland, 2008; Thonney, 2011). Academic writing plays an important role in the advancement of knowledge and the dissemination of scholarly work. Therefore, it facilitates knowledge sharing through publications for a specific academic scholarly community. This enables researchers and scholars to communicate their findings clearly and systematically, contributing to the collective understanding within a discipline. As a way of expression, studies reported that academic writing promotes critical thinking that encourages analytical reasoning, synthesis of information, and the evaluation of evidence, which are essential skills in both academic and professional settings (Pally, 2001; Yamin et al., 2023). A critical dimension of academic writing is ensuring that students and academics always uphold academic integrity and ethical practices (Almutairi, 2022). In the era of artificial intelligence tools and detection, higher education institutions can leverage AI tools and detection software to uphold and help prevent plagiarism and cheating and foster a culture of honesty and respect for intellectual property rights (Anon, 2024).

First, the RQ1 focuses on specific scholarly works on the conceptual understanding of prompt literacy. Nazari and Saadi (2024) opined that an AI prompt refers to instructions or commands that users can input into an AI system to communicate their intentions to the machine. Prompt literacy is a skill that empowers individuals to communicate with AI without the complexity of programming languages (Gattupalli et al., 2023; Jacobs & Fisher, 2023). It is a bridge crafted from everyday language, enabling users to guide AI through tasks with simple, direct commands (Maloy & Gattupalli, 2024). It is becoming essential in education and professional settings as AI tools integrate into learning and work environments. Literature indicated several models for writing effective prompts, such as PROPEROPER (Gruber, 2023), CREATE (Birss, 2023), CAST (Jacobs & Fisher, 2023), and TRUST (Trust, 2023). However, this SLR used the CLEAR framework to understand prompt literacy in scholarly publications, which applies to the study (see Figure 2; Table 4). Lo (2023) provided a CLEAR framework that concurs that prompts should be clear and specific to produce more relevant and helpful responses.

Literature indicates various key aspects of prompt literacy. First, users must understand AI capabilities and limitations. For example, AI does not understand content like humans do; it generates responses based on patterns in data. Cain (2023) argues that for academics to be proficient in prompt literacy, they need to be skilled in the essential components: content knowledge, critical thinking, and the ability to engage in an iterative design process with LLMs (Moorhouse et al., 2025; Nazari & Saadi, 2024). Cao and Dede (2023) describe it as the ability to engage in “back-and-forth” interactions, which means that the user can “refine” or “expand on” the response through a dialogic iterative process. This means they should be tested, evaluated and refined to improve the quality of AI-generated content. Lastly, writers should know that effective prompting requires understanding the subject matter (Cain, 2023) and that prompts must be tailored to the audience, purpose, and desired format (Moorhouse et al., 2025). Knoth et al. (2024)

concluded that for users to prompt effectively, they need AI literacy. According to Moorhouse et al. (2025, p. 4), various prompt engineering frameworks have been proposed to help LLM users consider the components that can be included in an effective prompt.

Prompting has shown significant potential in enhancing higher education students' academic writing skills. Recent research showed some key insights in this regard. A study by Nazari and Saadi (2024), for example, demonstrated that developing a practical, structured approach to prompt design can help users generate more relevant and academically appropriate responses. Prompt Design is a critical skill for students and lecturers using AI tools such as ChatGPT. Prompting as a skill in AI-enhanced learning can use a structured approach to prompt design to help users generate more relevant and academically appropriate responses, useful in tasks such as academic writing (Nazari & Saadi, 2024).

Second, RQ2 focuses on the effectiveness of prompting in enhancing students' academic writing skills in HEIs. In the context of academic writing skills, the CLEAR framework empowers students to engage critically with AI tools to improve their academic writing skills. It also supports University lecturers in integrating AI literacy into academic writing instruction.

It also promotes generative AI's ethical and practical use in academic settings. Denny et al. (2022) reveal that prompt engineering—where students modify their natural language queries to interact with AI—is a valuable learning activity. This interaction not only aids in problem-solving but also fosters critical thinking, which is essential for articulating thoughts in writing. Similarly, Khlaif et al. (2023) underscore that advanced prompting techniques can produce high-quality writing outputs that closely resemble human-generated content. Such findings suggest that AI-driven prompting may enhance students' writing skills by providing examples of well-structured responses. Rad and Jafarpour (2022) highlight the effectiveness of gamification in EFL learning, suggesting that engaging prompts can motivate students to improve their writing abilities. The incorporation of game elements into writing tasks enhances student engagement and contributes to better writing outcomes. Perkins et al. (2023) demonstrate that embedding writing tasks requiring critical thinking can significantly improve writing quality. Students articulate their understanding more effectively using specific prompts related to the material, thus bridging the gap between writing and conceptual mastery. Moreover, Hwang et al. (2024) investigation into AI-assisted language learning for English as a Foreign Language (EFL) students reveals that tailored AI prompts significantly improve writing skills and student motivation.

The third research question (RQ3) analyzed the types of prompts used in studies to improve the quality of academic writing. The SLR indicated that prompting provides students with structured guidance to stimulate their writing processes. Research demonstrates that well-designed prompts can significantly enhance students' engagement and writing quality. Results showed that 62.0% of studies reported specific typologies employed to promote prompt literacy for academic writing in HEIs. A study supports this finding, *Digital Competence Assessment Methods in Higher Education: A Systematic Literature Review* (Sillat et al., 2021), highlighting the importance of clear expectations and structured prompts in fostering students' critical thinking and writing skills.

In Table 7, the Thesis Development Prompts are used for academic writing (8.6%), which helps students craft strong, arguable thesis statements. This type of prompt in developing AI thesis prompts presents a unique opportunity to harness the capabilities of large language models (LLMs) like ChatGPT. On the other hand, Zamfirescu-Pereira et al. (2023) emphasize that non-AI-experts often struggle with crafting prompts that yield desired outputs from LLMs. This struggle is particularly pertinent to thesis development, where precise and well-structured prompts can significantly enhance the quality of AI-generated content.

The Structure and Organisation Prompt is used as a guided typology that supports the logical flow of ideas in essays or research papers. This result concurs with Song and Song (2023), who demonstrated that EFL students who utilized ChatGPT for writing instruction exhibited notable improvements in their writing skills, particularly in organization and coherence. The results (42.9%) suggest that well-crafted AI prompts assist in content generation and guide students in structuring their thoughts and arguments effectively. Similarly, Widiati et al. (2023) found that EFL teachers observed significant enhancements in students' writing quality, particularly in content and organization, when using AI writing tools. Moreover, as Guo and Lee (2023) discussed, the VISAR system demonstrates how AI can assist in organising argumentative writing through hierarchical planning. By helping users brainstorm and revise their ideas, VISAR enhances the overall structure and persuasiveness of their arguments. Such AI-enabled systems exemplify the potential for prompts to support writers in organising their thoughts coherently, which is essential for effective communication.

Several papers reported that Critical Thinking and Analysis Prompts (22.2%) were another prompt structure. This typology needs to develop prompts that encourage users to reflect on the authenticity of their writing and to critically evaluate the AI-generated content, as highlighted by Eager and Brunton (2023); research indicates that AI tools, particularly ChatGPT, can significantly enhance critical thinking and analytical skills in various domains, including healthcare education and scientific writing. Similarly, Salvagno et al. (2023) highlight the importance of crafting writing prompts that encourage researchers to evaluate the originality and validity of AI-generated content.

The results showed that Academic Style and Tone Prompts (28.6%) focus on the formal, objective, and precise language used when students craft prompts. This result is supported by research that indicates that well-crafted AI prompts can significantly enhance the quality of academic writing (Jacobs & Fisher, 2023; Perkins, 2023; Gattupalli et al., 2023; Nazari & Saadi, 2024; Raheem et al., 2023). According to Dergaa et al. (2023), NLP technologies can generate human-like responses that improve writing coherence and adherence to academic standards. This aligns with Perkins (2023), who emphasizes that AI tools can support educational outcomes by assisting students in creating coherent texts. Both studies highlight the necessity of prompt Design in guiding users toward producing high-quality academic work, suggesting that explicit instruction on prompt crafting can foster better writing outcomes.

## Implications

Based on the findings, specific implications of the systematic literature review (SLR) on prompting strategies to enhance academic writing in higher education showed significant results based on the CLEAR framework. These implications are pedagogical, technological, and institutional policy imperatives.

First, **pedagogical implications** emerged based on the CLEAR framework and typologies that prompt students to use it in academic writing. Studies reported integrating effective prompting strategies into writing curricula, especially in academic writing courses. This impacted the curriculum design, pedagogical practices, and how academic staff may adopt more targeted and evidence-based prompting techniques to support student academic writing development. Furthermore, the results showed that insights through the SLR could improve formative constructive feedback practices, helping students engage more deeply with academic writing tasks.

Second, the SLR revealed the **technological implications** of specific AI technologies used during prompt literacy. Academic staff can leverage specific AI tools such as Grammarly (paraphrasing), CoPilot (specific personalized learning content), Turnitin AI detection

(plagiarism) and ChatGPT to prevent cheating, but to use prompting as an empowerment strategy for enhancing students' academic writing skills. Studies have reported that prompts could be embedded in digital platforms such as CoPilot or ChatGPT if approved for teaching and learning. Therefore, it supports scaffolding in student writing development applied in real-time, especially for blended learning or distance learning environments.

Finally, revised **institutional policy** imperatives for HEIs need to be revised. HEIs might use the findings of this SLR to train academic staff in using prompts effectively to support diverse students. All policy-related matters, such as research, assessment, academic integrity and ethics policies, must be revised to prevent cheating and plagiarism in student academic writing. Therefore, assessment policies must be revised to encourage more process-oriented and formative assessment strategies for student writing.

## **Conclusion**

This systematic literature review revealed several key themes regarding prompting strategies to enhance academic writing in higher education. A prominent finding was the centrality of prompt formulation in unlocking the pedagogical potential of AI-assisted writing tools. The review identified various prompt types, emphasizing those that encourage critical thinking, reflection, and structured argumentation. The CLEAR framework emerged as a consistent model guiding effective prompt Design, reinforcing the importance of clarity, engagement, and relevance in instructional prompts. Across the reviewed studies, a pattern of positive outcomes was evident: students exposed to well-crafted prompts demonstrated improved writing quality, deeper engagement with content, and enhanced metacognitive awareness. However, some inconsistencies were noted in the implementation contexts and the degree of technological integration, suggesting variability in institutional readiness and educator training. Despite these differences, the literature supports the effectiveness of prompting strategies in fostering academic writing development. The findings directly address the review's objectives by identifying the prompts, evaluating their effectiveness, and contextualizing their application. They contribute to the growing knowledge of digital pedagogy and academic literacy, particularly in AI-enhanced learning environments. The review underscores prompt literacy as a foundational skill for students and educators in the digital age. These insights can inform curriculum design, educator training, and institutional policy. They also highlight the need to integrate prompt literacy into academic support for students and academic staff. Future research should explore the longitudinal impacts of prompting strategies, cross-disciplinary applications, and the role of culturally responsive prompts. Limitations of this small review (n=42) include potential publication bias, language restrictions and reliance on a limited number of academic databases (Google Scholar, Scopus, WoS and SciSpace). Further investigation is needed to explore underrepresented regions, disciplines, and the evolving role of generative AI in academic writing. This study also holds significance for the South African higher educational context, which is particularly characterized by its highly multilingual and culturally diverse academic environment.

## **Acknowledgment of AI Technologies**

We captured the idea from a previous manuscript on AI literacy, but brainstormed the idea of prompt literacy. This prompted us to explore the Systematic Literature Review (SLR), which aims to critically examine and synthesize existing research on using prompting strategies to enhance academic writing among students in higher education institutions. We acknowledged the use of

generative artificial intelligence tools during the preliminary drafting of the SLP for this study. The following search engines and AI technologies, namely Google Scholar (scholarly articles), Grammarly (paraphrasing), SciSpace and Research Rabbit (full-text articles), were utilized for structuring my paper, reading and summarising, and selection of specific articles. All AI-generated suggestions were critically evaluated and validated by the human authors to ensure academic rigour, coherence, and integrity. Furthermore, the authors actively identified and addressed potential biases inherent in AI-generated content. The final version of the paper reflects the sole intellectual responsibility and scholarly judgement of the human authors.

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