

# Research on Academic English Abroad and Its Implications for the Instruction of Academic English Writing in China

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**Abstract:** *This study draws on journal articles related to academic English research indexed in the Web of Science database from 2000 to 2025 as its data source. A systematic review and analysis are conducted to show the developmental trends and current state of research in this field internationally. In addition, pedagogical implications for academic English writing instruction in China are proposed in light of the domestic teaching context. The findings indicate that research on academic English writing has gradually shifted from a primary focus on language form to a broader concern with cognitive processes, disciplinary discourse practices and writing support tools. In particular, increasing attention has been directed toward the impact of Gen-AI on academic writing and its instruction. Accordingly, it is argued that academic writing instruction in China should adopt human-AI collaboration as its core orientation, strengthening the development of learners' cognitive abilities while regulating the use of Gen-AI and guiding its appropriate integration into writing practice.*

**Keywords:** Academic English Writing, Cognitive strategies, Disciplinary discourse, Human-AI collaboration.

## 1. Introduction

Academic English writing is regarded as an essential means for learners to participate in international academic communication and as a key indicator of their academic competence (Strobl et al., 2019). As one of the core competencies within higher education, academic writing ability has increasingly been recognized as a crucial component of talent cultivation, particularly at the postgraduate level (Al Mulhim & Ismaeel, 2024). However, in the context of current pedagogical practices in China, academic English writing instruction is still confronted with a number of practical challenges. On the one hand, discontinuities exist in the coverage and progression of instructional targets. Research has long been concentrated on English majors or undergraduate students, while systematic attention to non-English majors has emerged relatively late (Cai, 2017). Meanwhile, learners' deficiencies in academic writing extend beyond linguistic issues and are prominently manifested in insufficient abilities in literature retrieval and review, unclear argumentative logic, limited depth of academic discussion, weak awareness of academic conventions and inappropriate use of academic register (Cai, 2017). On the other hand, the curriculum system and instructional support remain underdeveloped. In many universities, inadequacies persist in course design, allocation of instructional hours and alignment with disciplinary needs, resulting in a noticeable separation between learning and application in academic writing instruction (Huang & Zhang, 2021; Zhang & Guo, 2025). In addition, compared with the relatively well-established academic writing curricula and extracurricular support, such as writing centers, in American universities, considerable ways for improvement remains in terms of systematic curriculum development and personalized support in China (Zhu, 2019). In contrast, research on academic English writing abroad was initiated earlier and has reached a relatively mature stage. As early as 1981, the influential cognitive process theory of writing was proposed by Flower and Hayes (1981), through which the complexity of

writing activities was elucidated from a cognitive perspective, thereby laying an important foundation for subsequent research. After that, the field has been continuously expanded. Therefore, it is necessary to systematically review relevant international research. On this basis, re-examine the key problems in China's academic English writing instruction, so as to provide theoretical support and practical guidance for its improvement.

Accordingly, this paper focuses primarily on research on academic English writing in the Web of Science database from 2000 to 2025. Advanced search queries were conducted using the keywords "academic writing," "academic English," "English for Specific Purposes (ESP)," and "English for Academic Purposes (EAP)," identifying a total of 557 journal articles. Through manual screening, literature reviews, editorial materials, conference papers, and other documents not relevant to the research topic were excluded, resulting in a final valid sample of 350 articles. The research content and themes of these articles were then systematically organized and analyzed. On the basis of the initial screening, a further 45 core articles were identified for in-depth analysis in accordance with criteria of research relevance and academic quality standards. The selection criteria included a clear focus on academic English writing, the presence of well-defined theoretical perspectives or empirical support and a high citation frequency. Subsequently, a scoping review methodology was employed to conduct a systematic reading of the sampled literature. Content coding and inductive analysis were carried out along two analytical dimensions, namely the nature of academic writing and the use of writing tools. Particular attention was given to the conceptualization of academic writing, the role of writing tools, especially artificial intelligence technologies and their implications. Based on these analyses, pedagogical recommendations are proposed for academic English writing instruction in Chinese higher education, with specific reference to both "what to teach" and "how to teach."

## 2. The Nature of Academic Writing

On the basis of systematic coding and inductive analysis of the 45 core articles, this study further conducts a cluster analysis from the perspective of theoretical interpretations of the nature of academic writing. The results indicate that the number of studies explicitly addressing the “nature of academic writing” at a theoretical level remains relatively limited, with only three articles providing a comparatively systematic account of this issue. These studies conceptualize the intrinsic attributes of academic writing from the perspectives of language competence, cognitive processes and metacognitive strategies. Drawing on the entire corpus, the relevant literature is categorized into three core dimensions: language form, cognitive strategies and disciplinary discourse. Statistical analysis reveals a markedly uneven distribution across these dimensions. Studies focusing on cognitive strategies constitute the largest proportion (five articles), followed by those addressing disciplinary discourse (four articles), while research primarily concerned with linguistic form is comparatively limited (three articles). This distribution suggests a clear shift in academic English writing research, from an earlier emphasis on surface-level language accuracy toward a deeper engagement with cognitive processes and disciplinary discourse practices.

First, from the perspective of language form, academic writing is characterized by a high degree of precision and logical coherence. Such precision is reflected not only in the accurate use of grammar and vocabulary, but also in the systematic command of cohesive devices within academic discourse. Research has shown that proficient second-language academic writers are able to effectively employ transition markers and frame markers, thereby enhancing textual coherence and structural clarity (Munoz-Luna, 2015). Building on this, López-Navarro et al. (2015) point out that academic writing is always oriented toward a specific target audience and that writers’ linguistic choices and rhetorical strategies must align with the communicative conventions of different disciplines, which further reinforces the demands for precision and logical organization. In addition, academic writing requires writers to possess specialized knowledge of academic writing conventions and academic discourse in order to meet the expectations of readers within particular disciplinary communities (Phyo et al., 2025).

However, a systematic analysis of 44 digital writing tools conducted by Strobl et al. (2019) reveals that existing tools predominantly focus on supporting micro-level linguistic revisions, while offering limited assistance for macro-level aspects of text quality. In particular, insufficient support is provided for elements such as argumentative structure and rhetorical moves. This finding further underscores that the essence of academic writing lies not merely in linguistic accuracy, but in meaning construction and logical organization at the discourse level. Therefore, at the level of language form, academic writing encompasses multiple dimensions, including lexical choice, discourse organization and adherence to disciplinary conventions, rather than being reducible to grammatical correctness alone.

Second, academic writing is essentially a cognitive activity.

The writing process can be conceptualized as a series of mental operations or a goal-oriented thinking process (Flower & Hayes, 1981). Further evidence provided by Munoz-Luna (2015) indicates that successful second-language academic writers tend to employ specific writing strategies, including outlining, drafting and iterative proofreading as key stages of the writing process. By contrast, learners with weaker academic writing performance are often characterized by a lack of awareness of pre-writing planning and their revision practices tend to remain at the level of surface-level language adjustments (Munoz-Luna, 2015). This suggests that academic writing should be viewed as an active process of knowledge construction (Nazari et al., 2021), in which differences in writing proficiency are largely determined by the depth and breadth of cognitive engagement, rather than by the mere accumulation of linguistic knowledge. Accordingly, academic writing needs to be understood as a dynamic cognitive process that includes idea generation, language expression and text revision.

From the perspective of disciplinary discourse, academic writing is essentially a communicative practice within specific discourse communities, whose structure and expression are constrained by academic conventions and rhetorical norms (Strobl et al., 2019). Writers are required not only to master general language skills, but also to comprehend and internalize the discourse conventions of particular disciplines. In this process, interactive practices play a crucial role. Engin and Donanci (2015) argue that classroom interaction and academic dialogue are central to second language writing development, as learners gradually acquire the functions of explanation, argumentation and evaluation through sustained interaction. Similarly, Gopee and Deane (2013) identify peer support and social capital as key “enablers” of academic writing. At the same time, academic writing is deeply embedded in specific disciplinary contexts. Different disciplines exhibit significant variation in research paradigms, modes of argumentation and language choices. For instance, in the natural sciences, greater emphasis is placed on English as a medium for international scholarly communication, whereas in the humanities and social sciences, local languages often retain their role in knowledge production and dissemination (López-Navarro et al., 2015). Such disciplinary variation further underscores that academic writing is not a generic skill, but rather a highly situated practice, closely tied to particular disciplinary contexts.

Overall, academic writing should not be conceptualized as a singular linguistic skill. Rather, it is the outcome of the dynamic interaction among language use, cognitive strategies and disciplinary discourse practices.

## 3. The Use of Academic English Writing Tools

Against the backdrop of rapid developments in information technology, the means of supporting academic writing have undergone continuous evolution, progressing from early word-processing tools to multifunctional digital support systems. Among the 45 core articles selected, 32 focus on the application of Gen-AI, indicating that this technology has emerged as a central topic in current research. The rise of Gen-AI, exemplified by ChatGPT, is profoundly reshaping the overall landscape of academic English writing research.

Within this context, the application of Gen-AI in academic writing has become a primary research focus. Existing studies are predominantly concentrated on three aspects: performance and effectiveness, potential risks and challenges and the development of regulatory and normative frameworks.

First, the effectiveness and advantages of Gen-AI as a tool for academic writing. Research generally acknowledges that large language models such as ChatGPT offer significant value in enhancing writing efficiency and improving the quality of teaching. Experimental evidence reported by Altmäe et al. (2023) demonstrates that, with the assistance of ChatGPT, an initial draft outline of a research paper, including the title, abstract and structural framework of major sections, can be generated within 15 minutes, thereby effectively alleviating the “blank-sheet syndrome” commonly encountered at the early stage of writing. For non-native English-speaking researchers, Gen-AI functions as a powerful language assistant, facilitating grammatical accuracy and optimizing expression, which in turn enables more equitable participation in international scholarly communication (Kayaalp et al., 2024). In terms of application pathways, the use of prompt engineering allows researchers to guide AI systems in generating literature reviews, describing research methodologies and interpreting data results (Giray, 2023). Beyond directly assisting with text generation, Gen-AI also demonstrates considerable potential in higher education contexts. It can enhance students’ active learning, self-efficacy and critical thinking in academic writing through simulated training and interactive tasks (O’Flaherty & Costabile, 2020; Nazari et al., 2021). Meanwhile, its application is expanding into key stages of the research process, such as accelerating the completion of systematic literature reviews through semi-automated tools (Bolanos et al., 2024) and even exploring its role in manuscript quality evaluation (Golan et al., 2023).

Second, the core risks and challenges associated with Gen-AI applications. Existing research has revealed multiple limitations of Gen-AI in academic writing. The most prominent concern lies in the “hallucination,” whereby AI systems generate content that appears plausible but lacks a factual basis. Studies by Guleria et al. (2023) and Khlaif et al. (2023) demonstrate that AI-generated texts frequently contain unverifiable or even fabricated references, thereby undermining their accuracy and reliability. In high-risk domains such as medicine, such issues may further evolve into erroneous conclusions or misleading abstracts, posing potential risks to both scholarly communication and practical application (Hwang et al., 2024; Sedaghat, 2023). More critically, tools for detecting AI-generated content are currently inefficient and easily circumvented. Relatively minor revisions are often sufficient to enable such texts to evade detection (Odri & Yoon, 2023). At the same time, the integration of AI poses significant challenges to established frameworks of academic ethics. With respect to authorship, organizations such as the International Committee of Medical Journal Editors, along with major academic publishers including Elsevier and Springer Nature, have explicitly prohibited listing ChatGPT as an author, on the grounds that it cannot assume responsibility for the integrity, accuracy or originality of scholarly work (Guleria et al., 2023; Porsdam Mann et al., 2023). This has further given rise to debates

surrounding “high-tech plagiarism,” referring to the concern that AI-generated texts, while capable of passing conventional plagiarism detection, may infringe upon intellectual property rights (Guleria et al., 2023). In addition, AI systems may amplify biases embedded in their training data, thereby producing discriminatory or unbalanced outputs (Dergaa et al., 2023). At a deeper level, Gen-AI has the potential to disrupt the core processes of academic knowledge production. For instance, while it may alleviate the burden of peer review, it could simultaneously reinforce existing biases and compromise the fairness and integrity of review process (Hosseini & Horbach, 2023).

Third, academic standards for the use of Gen-AI. In the absence of uniform guidelines for Gen-AI, the “human-centered” approach has emerged as a core principle, emphasizing that AI should serve as an auxiliary tool rather than a substitute for authors and that all AI-generated content must undergo rigorous review by human experts (Altmäe et al., 2023; Mondal & Mondal, 2023). More specific guidelines have also been proposed. For instance, it has been suggested that at least one author should assume ultimate responsibility for the work, that all listed authors must make substantial intellectual contributions and that the use of AI should be explicitly disclosed in detail (Porsdam Mann et al., 2023). At the level of practical application, researchers are encouraged to employ well-designed prompts, characterized by clarity, specificity, and contextual information, to guide AI systems toward producing higher-quality outputs (Giray, 2023). From an ethical standpoint, transparency has been established as a foundational principle. Researchers are expected to clearly acknowledge the use of AI in sections such as methodology or acknowledgements (Kayaalp et al., 2024). In addition, some scholars have called for the development of globally unified ethical guidelines and mechanisms for detecting AI-generated content, in order to uphold the credibility of academic publishing (Dergaa et al., 2023). Such efforts are also considered essential for ensuring that all researchers are able to participate in and contribute to the global knowledge system on an equal basis (Bhakuni & Abimbola, 2023).

In summary, the application of Gen-AI in academic English writing exhibits a significant “double-edged effect”: on the one hand, it holds great value in enhancing writing efficiency, optimizing linguistic expression and expanding academic participation; on the other hand, it also poses a series of challenges regarding content reliability, academic ethics and standards. These researches offers important insights for the integration of AI and the establishment of academic standards in the teaching of academic English writing in China.

## 4. Implications

Drawing on international research on academic English writing, important implications can be derived for the reform of academic English writing instruction in China. These implications are discussed in terms of instructional content and instructional pathways within the context of human-AI collaboration.

### 4.1 Instructional Content

Findings from international research on academic English

writing indicate a shift from prioritizing language form to emphasizing cognitive processes and disciplinary discourse practices. Accordingly, it is argued that academic English writing instruction should go beyond the traditional language knowledge. Therefore, it should progressively adopt an integrated approach that encompasses linguistic form, cognitive strategies, disciplinary discourse and technological ethics, so as to address Chinese students' notable deficiencies in argumentation, academic conventions and discourse construction (Cai, 2017).

At the language levels, academic writing competence is manifested not merely in grammatical and lexical accuracy, but also in the systematic command of discourse structures and rhetorical functions. Accordingly, instructional content should extend from sentence-level training to explicit guidance at the discourse level. Leveraging the generative and multimodal characteristics of Gen-AI (Jing et al., 2025), typical discourse examples in interdisciplinary contexts can be dynamically presented. Through comparative analysis of disciplinary variations in rhetorical moves, such as introductions, literature evaluation and argumentative discussion, learners can be guided to internalize disciplinary conventions and optimize discourse organization.

At the level of cognitive processing, academic writing is inherently a dynamic process of construction. Instruction should therefore emphasize strategic guidance throughout the entire writing process, from idea generation and planning to reflection and revision. The use of outlining techniques and iterative feedback mechanisms can facilitate learners' explicit awareness of textual logic and support continuous refinement. Empirical studies suggest that writing support tools significantly enhance learners' cognitive engagement and self-efficacy, while the instant feedback and logical structuring provided by Gen-AI further contribute to improved research efficiency and deeper levels of cognitive processing (Wang & Wang, 2026).

At the level of disciplinary discourse, academic writing is characterized by substantial disciplinary variation, with forms of expression shaped by the norms of specific academic communities. Consequently, instructional approaches should shift from generalized models to discipline-oriented discourse analysis and practice. Through the deconstruction and imitation of representative texts, learners can develop an understanding of discipline-specific argumentation patterns and stylistic features. In addition, by taking into account disciplinary differences in students' preferences for AI use (Cui & Christian, 2025), more targeted competence development can be achieved.

Overall, the content of academic English writing instruction must move beyond a singular focus on language-form training and shift toward the development of multidimensional, integrated competencies to adapt to the enhancement of academic writing skills in the context of artificial intelligence.

#### 4.2 Instructional Pathway

Given the current challenges in academic English writing instruction in China, such as the disjunction between learning and application, insufficient curricular support and the lack of

individualized guidance, the systematic reconstruction of instructional pathways needs to be re-examined within the context of integrating Gen-AI. International research on academic writing is closely intertwined with advancements in AI technology, jointly driving the transformation of academic writing instruction from traditional models toward a new "human-AI collaborative" approach. Against this backdrop, the academic writing process is further delineated into dynamic stages, including topic selection, outline construction, draft generation, feedback-based revision and final draft refinement. Gen-AI assumes differentiated roles across these stages: it facilitates idea generation and structural planning in the early phases, supports text production and content expansion during drafting and contributes to language optimization and expressive enhancement during revision. Through such stage-specific interventions, learners' academic writing competence can be systematically improved. At the same time, human-AI collaboration is increasingly becoming a key mode of academic writing. Existing studies suggest that while AI demonstrates significant advantages in text generation and language optimization, it remains limited in terms of content accuracy and logical reliability. Accordingly, instructional design should establish a collaborative mechanism in which AI serves as a supportive tool under the guidance of instructors. This approach ensures that, alongside gains in efficiency, learners' agency and adherence to academic rigor are maintained through teacher mediation and alignment with disciplinary norms (Kong & Xu, 2025; Wang & Wang, 2026). What's more, instructional content should also incorporate AI literacy education, with an emphasis on cultivating critical evaluation skills for AI-generated content.

At the level of feedback and assessment, Gen-AI further restructures traditional one-way evaluation models, enabling a shift from teacher-dominated assessment to a "multi-collaborative" feedback system. For example, leveraging the immediacy of AI-generated feedback, a multi-stage feedback loop can be constructed, comprising AI-assisted draft generation, peer review, AI-driven language optimization and teacher-guided argumentation support (Jing et al., 2025). Such an iterative feedback mechanism enhances both the depth and timeliness of evaluation. Meanwhile, through the dynamic recording and analysis of learning behaviors enabled by AI, dimensions such as argument quality, revision paths and AI usage standards can be incorporated into comprehensive evaluations (Kong & Xu, 2025). Furthermore, Gen-AI provides a technological foundation for extending extracurricular support systems. Beyond traditional writing centers and workshops, AI-assisted writing consultation is emerging as a valuable supplement. By supporting learners in areas such as prompt design, literature verification and ethical compliance, it helps to address the limitations of classroom-based instruction in delivering personalized guidance (Zhu, 2019; Huang & Wang, 2025).

Overall, in the context of the deep integration of Gen-AI, academic English writing instruction should be restructured around teacher-guided, human-AI collaborative pathways, supported by intelligent feedback and assistance systems. This transformation not only reflects how technology is reshaping teaching practices but also demonstrates how AI is imbuing academic writing skills with new meaning.

## 5. Conclusion

In summary, international research on academic English writing has evolved from an initial focus on linguistic form toward increasing attention to cognitive processes and disciplinary discourse practices. Driven by Gen-AI, it is now entering a new phase of human-AI collaboration, offering important insights for the transformation of academic English writing instruction in China. In the context of the deep integration of AI, academic writing instruction is no longer confined to the transmission of language knowledge but is evolving toward a multidimensional trend toward the integration of language use, cognitive strategies, disciplinary discourse and technological ethics. Accordingly, instructional pathways should be reoriented toward a comprehensive model grounded in process-based guidance, centered on human-AI collaboration and supported by intelligent feedback mechanisms. Looking ahead, academic English writing instruction should not only capitalize on the empowering potential of Gen-AI, but also further strengthen learners' awareness of academic norms. A balance must be achieved between enhanced writing efficiency and the maintenance of academic rigor, so as to promote the development of academic writing competence at a higher level.

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