ANP-JSSH
ISSN 2773-482X eISSN 2785-8863
DOI: https://doi.org/10.53797/anp.jssh.v7i1.1.2026

Pedagogically Guided Integration of Generative AI in Mandarin Chinese Academic Writing: Lecturers' Perspectives from Higher Education

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Received: 8 January 2026; Revised: 25 October 2025; Accepted: 17 November 2025; Available Online: 13 January 2026

Abstract: This study explores lecturers' perspectives on integrating Generative AI Writing Models (GAIWM) into Mandarin Chinese academic writing instruction, with particular attention to pedagogical strategies, instructional design, assessment practices, and implementation challenges. Adopting a qualitative exploratory design, the study draws on semi-structured interviews with expert lecturers at Guangxi Art University. Data were analyzed using thematic analysis to identify recurring patterns related to GAIWM integration in academic writing pedagogy. The findings reveal four interrelated themes: (1) pedagogically guided integration of GAIWM as a supportive instructional scaffold, (2) alignment of AI tools with Mandarin Chinese academic writing conventions, (3) structured instructional design and process-oriented assessment of AI-based activities, and (4) challenges related to ethics, technological limitations, and professional development needs. Lecturers emphasized teacher mediation, contextual relevance, and controlled AI use as essential for meaningful learning outcomes. The study contributes a context-sensitive thematic model that conceptualizes effective GAIWM integration as an interaction among pedagogy, linguistic context, instructional design, and institutional capacity. The findings offer practical implications for writing instruction, curriculum design, and professional development in AI-enhanced higher education. By foregrounding lecturers' perspectives in Mandarin Chinese academic writing instruction, this study addresses a critical gap in the AI-in-education literature and advances understanding of responsible, pedagogically grounded generative AI integration beyond English-dominant contexts.

Keywords: AI, Generative AI, Writing Model, Mandarin, Pedagogical

1. Introduction

The rapid advancement of Generative Artificial Intelligence (GAI) has introduced profound transformations across educational contexts, particularly in the domain of academic writing instruction. Generative AI Writing Models (GAIWM), such as large language models capable of producing coherent, contextually appropriate texts, have attracted growing attention for their potential to support writing processes including brainstorming, drafting, revising, and language refinement (Kasneci et al., 2023; Zhai, 2022). In higher education, academic writing is not only a technical skill but also a socially and culturally situated practice that reflects disciplinary norms, epistemological values, and linguistic conventions (Hyland, 2019). As such, the integration of GAIWM into academic writing instruction raises important pedagogical, ethical, and contextual questions.

Academic writing instruction in Mandarin Chinese presents distinct pedagogical and linguistic challenges that differentiate it from alphabetic-language contexts. Mandarin academic writing requires mastery of complex syntactic structures, discipline-specific rhetorical conventions, and culturally embedded norms of argumentation and scholarly voice (Hyland, 2004; Lu et al. 2021). These features raise critical questions about the applicability of largely English-trained generative AI models in Mandarin academic contexts and the extent to which such tools can align with local linguistic and academic conventions. Existing research on AI-assisted writing has largely emphasized efficiency gains, grammatical accuracy, and learner perceptions, often within English as a Second or Foreign Language (ESL/EFL) contexts (Wei et al., 2023; Ranalli et al., 2017). Studies have shown that AI-based writing tools can support language learners by reducing cognitive load, providing immediate feedback, and facilitating iterative revision (Qin &

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Chuaychoowong, 2023). However, scholars caution that uncritical adoption of generative AI risks undermining learners' autonomy, critical thinking, and authorship, particularly when AI-generated texts are used as substitutes rather than scaffolds for learning (Selwyn, 2019).

Despite the expanding body of research on generative AI in education, three critical gaps remain evident. First, much of the literature treats AI writing tools as largely language-neutral, with limited attention to linguistically and culturally specific academic writing traditions. Mandarin Chinese academic writing is characterized by distinctive rhetorical patterns, syntactic structures, and epistemic conventions that differ substantially from those of English academic discourse (Liu et al., 2025). Generic AI models trained predominantly on English-language corpora may therefore struggle to adequately support Mandarin academic writing without contextual adaptation.

Second, existing studies tend to prioritize student perspectives and learning outcomes, while comparatively little attention has been given to lecturers' pedagogical reasoning and instructional decision-making regarding AI integration (Pedro et al., 2019; Karaca & Kılcan, 2023). Lecturers play a critical mediating role in determining whether AI functions as a pedagogical scaffold, an assessment challenge, or a disruptive force within writing instruction (Bearman et al., 2024). Understanding how lecturers conceptualise, design, and regulate AI use is therefore essential for sustainable and ethically grounded integration.

Third, while there is growing concern about academic integrity, over-reliance on AI, and assessment validity in the age of generative AI, empirical studies offering pedagogically grounded models for structuring, assessing, and governing AI-assisted writing activities remain limited (Francis et al., 2025). In particular, there is a lack of context-specific frameworks that address professional development needs and institutional readiness alongside instructional design.

In response to these gaps, the present study explores lecturers' perspectives on the integration of Generative AI Writing Models (GAIWM) into Mandarin Chinese academic writing instruction at a Chinese higher education institution. Drawing on expert interviews, the study examines how lecturers conceptualise AI's pedagogical role, select appropriate tools and materials, design and assess AI-based writing activities, and navigate implementation challenges. By foregrounding lecturers' voices within a linguistically and culturally specific context, the study aims to develop a thematic model that advances understanding of pedagogically guided, context-sensitive AI integration in academic writing instruction.

The study is guided by the following research questions:

1. How do lecturers conceptualise and implement instructional strategies for integrating GAIWM into Mandarin Chinese academic writing instruction?
2. What instructional materials, AI tools, and selection criteria do lecturers consider most appropriate for integrating GAIWM into Mandarin Chinese academic writing courses?
3. How should GAIWM-based activities be designed, scheduled, and assessed to support students' academic writing development?
4. What challenges, limitations, and professional development needs do lecturers perceive in integrating GAIWM into Mandarin Chinese academic writing instruction?

2. Literature Review

2.1 Generative AI in Academic Writing Instruction

The integration of artificial intelligence into academic writing instruction has evolved rapidly over the past decade, transitioning from rule-based automated writing evaluation systems to advanced generative AI writing models (GAIWM) powered by large language models. Early applications of AI in writing pedagogy focused primarily on automated feedback, grammar correction, and surface-level linguistic accuracy (Dikli, 2006; Pedro et al., 2019). More recent generative models, such as ChatGPT and similar systems, extend beyond evaluation by producing coherent, context-sensitive text, offering support for idea generation, organization, paraphrasing, and revision (Karaca & Kılcan, 2023).
Empirical studies suggest that generative AI can enhance students' writing efficiency and reduce cognitive load during complex writing tasks, particularly for second-language learners (Zhai, 2022; Yan, 2023). By providing immediate feedback and examples, GAIWM can support iterative drafting and revision processes that are central to effective academic writing development. However, scholars caution that unregulated AI use may shift students' focus from learning writing skills to merely producing acceptable outputs, potentially undermining deeper learning outcomes (Cotton et al., 2023; Pedro et al., 2019).

Despite growing interest in AI-assisted writing, much of the existing literature remains concentrated in English-dominant contexts and focuses predominantly on student perceptions and performance outcomes. Comparatively fewer studies have examined lecturers' pedagogical rationales and instructional decision-making processes, particularly in non-English academic writing environments. This gap is significant, as instructors play a crucial role in shaping how AI tools are framed, constrained, and pedagogically integrated within writing curricula (Bennett et al., 2017).

2.2 AI as Pedagogical Scaffold versus Autonomous Writing Agent

A key theoretical debate within AI-supported writing instruction concerns whether generative AI should function as a pedagogical scaffold or as an autonomous writing agent. Drawing on sociocultural learning theory, scaffolding emphasizes guided support that enables learners to perform tasks beyond their current capabilities while gradually developing independence (Vygotsky, 1978). From this perspective, AI tools are most effective when embedded within teacher-led instructional frameworks that promote reflection, revision, and metacognitive awareness (Kim & Kim, 2022).

Recent studies advocate for positioning GAIWM as cognitive and linguistic support tools that assist with brainstorming, outlining, and language refinement rather than complete text generation (Kasneci et al., 2023; Yan, 2023). This approach preserves learners' agency and ensures that writing remains a meaning-making process rather than a mechanical output task. In contrast, treating AI as an autonomous agent capable of independently producing academic texts raises concerns about authorship, learning authenticity, and skill development (Pedro et al., 2019).

Pedagogically guided AI integration aligns with the Technological Pedagogical Content Knowledge (TPACK) framework, which emphasizes the intersection of technology, pedagogy, and disciplinary knowledge in instructional design (Mishra & Koehler, 2006). Within this framework, effective AI use depends not on technological capability alone but on instructors' ability to align AI functions with disciplinary writing objectives and learners' developmental needs. This study builds on this perspective by examining how Mandarin Chinese academic writing lecturers conceptualize and enact AI-supported scaffolding in practice.

2.3 Challenges and Ethics of AI in Writing Education

Alongside its pedagogical potential, generative AI raises substantial ethical and practical challenges within academic writing instruction. One of the most widely discussed concerns is academic integrity, particularly the difficulty of distinguishing between student-authored and AI-generated text (Cotton et al., 2024). Traditional plagiarism detection tools are often ineffective in identifying AI-generated content, prompting calls for revised assessment strategies that emphasize process, reflection, and oral defense of written work (Kim & Kim, 2022).

Another major challenge relates to students' over-reliance on AI tools, which may inhibit the development of critical thinking, rhetorical awareness, and independent writing skills (Kasneci et al., 2023). Empirical evidence suggests that without explicit instructional guidance, students may adopt AI outputs uncritically, accepting inaccuracies or inappropriate academic tone (Yan, 2023). These risks underscore the importance of instructor mediation and explicit instruction in AI literacy.

From an institutional perspective, uneven access to AI tools, lack of clear policy guidelines, and limited professional development opportunities further complicate implementation (Selwyn, 2019). Educators frequently report uncertainty regarding ethical boundaries, appropriate task design, and assessment practices in AI-enhanced writing environments (Bennett et al., 2017). Addressing these challenges requires not only technological solutions but also sustained professional capacity building and ethical frameworks tailored to specific disciplinary and linguistic contexts.

2.4 Mandarin Chinese Academic Writing Pedagogy: A Critical Niche

Mandarin Chinese academic writing represents a distinct pedagogical domain shaped by linguistic, rhetorical, and cultural conventions that differ substantially from those of English academic writing. Research has shown that Chinese academic discourse often emphasizes inductive reasoning, implicit argumentation, and culturally grounded expressions of authorial stance (Lu et al., 2021). These features pose unique challenges for learners and require specialized instructional approaches.

Existing studies on academic writing in Chinese higher education have highlighted difficulties related to coherence, discipline-specific genre conventions, and appropriate use of academic register (Hyland, 2019). For Mandarin-speaking students, academic writing instruction often involves negotiating tensions between traditional rhetorical norms and increasingly globalized academic standards. This complexity raises important questions about the suitability of generic AI writing tools, which are predominantly trained on English-language corpora and Western academic conventions.

Recent scholarship suggests that AI tools lacking Mandarin-specific linguistic and cultural adaptation may produce outputs that are syntactically inaccurate, rhetorically inappropriate, or misaligned with disciplinary expectations (Zhai, 2022). Consequently, scholars have called for context-sensitive AI integration that accounts for local academic practices, language norms, and instructional goals. However, empirical research examining how lecturers navigate these challenges in Mandarin Chinese academic writing instruction remains limited.

By focusing on lecturers' perspectives at Guangxi Art University, the present study addresses this critical gap and contributes nuanced insights into how generative AI can be pedagogically aligned with Mandarin Chinese academic writing conventions rather than imposed as a one-size-fits-all technological solution.

3. Methodology

3.1 Research Design

This study adopted a qualitative exploratory research design, appropriate for investigating complex pedagogical beliefs, instructional practices, and contextual challenges associated with emerging educational technologies (Creswell & Poth, 2016). Given the novelty of GAIWM integration in Mandarin Chinese academic writing instruction, a qualitative approach enabled an in-depth exploration of lecturers' perspectives and professional experiences beyond what could be captured through quantitative measures alone.

3.2 Research Context and Participants

The study was conducted at Guangxi Art University, a higher education institution where Mandarin Chinese academic writing forms a core component of undergraduate and postgraduate curricula. Participants were expert lecturers involved in teaching Mandarin Chinese academic writing and related courses. Purposive sampling was employed to select participants with demonstrated experience in academic writing instruction and familiarity with digital or AI-supported teaching tools, consistent with best practices in qualitative educational research (Palinkas et al., 2015).

3.3 Data Collection

Data were collected through semi-structured interviews, allowing participants to articulate their instructional philosophies, practical strategies, and concerns regarding GAIWM integration while providing flexibility for probing emerging themes (Kallio et al., 2016). Interview questions were explicitly aligned with the four research questions and covered areas such as pedagogical integration strategies, AI tool selection criteria, instructional design and assessment practices, and perceived challenges and professional development needs.

All interviews were conducted in a professional academic setting, audio-recorded with participants' consent, and subsequently transcribed verbatim for analysis. Ethical principles of voluntary participation, confidentiality, and informed consent were strictly observed throughout the data collection process.

3.4 Data Analysis

The interview data were analyzed using thematic analysis, following the six-phase framework proposed by Braun and Clarke (2006). This approach involved familiarization with the data, initial code generation, theme identification, theme review, theme definition, and final reporting. Thematic analysis was selected due to its flexibility and suitability for identifying patterned meanings across qualitative datasets in educational research contexts.

To enhance analytical rigor, themes were iteratively refined through constant comparison across transcripts, ensuring coherence within themes and distinction between them. The resulting thematic structure directly reflected the study's research questions and formed the basis for the presentation of findings.

3.4 Trustworthiness and Ethical Considerations

To ensure trustworthiness, the study adhered to established qualitative research criteria, including credibility, dependability, and transparency (Lincoln & Guba, 1985). Credibility was enhanced through the use of rich participant quotations, while methodological transparency was maintained through detailed documentation of analytical procedures. Ethical approval was obtained in accordance with institutional guidelines, and all data were anonymized to protect participants' identities.

4. Results: Thematic Findings from Expert Interviews

This section presents the findings from the thematic analysis of expert interviews on the integration of Generative AI Writing Models (GAIWM) into Mandarin Chinese academic writing instruction at Guangxi Art University. Four interrelated themes emerged from the data, reflecting experts' perspectives on pedagogical integration, instructional resources and tools, instructional design and assessment, and implementation challenges and professional development needs. Together, these themes address Research Questions 1–4 and provide a holistic understanding of how GAIWM is conceptualised and enacted within this specific instructional context.

Table 1: Thematic Findings from Expert Interviews

Theme	Core Focus	Key Sub-Themes
Theme 1	Pedagogical integration	Blended learning, AI as scaffolding, teacher authority
Theme 2	Linguistic & cultural alignment	Mandarin accuracy, academic tone, contextual relevance
Theme 3	Instructional design & assessment	Activity structure, portfolios, critical revision

Theme	Core Focus	Key Sub-Themes
Theme 4	Challenges & professional development	Ethics, over-reliance, teacher training

4.1 Pedagogical Integration of GAIWM as a Supportive Instructional Tool

Across interviews, experts consistently conceptualised GAIWM as a supportive and supplementary instructional tool rather than a replacement for conventional academic writing pedagogy. Participants emphasised that AI should be embedded within existing teacher-guided practices, including structured writing exercises, peer review activities, and instructor-led feedback sessions.

Lecturers described integrating GAIWM primarily at the pre-writing and revision stages, where AI tools were perceived as particularly effective in supporting idea generation, outlining, and language refinement. One expert explained:

"I use structured writing exercises, peer reviews, and group discussions to teach Mandarin Chinese academic writing. To integrate GAIWM, I would start with tools that help students brainstorm ideas, organize outlines, and refine grammar… followed by in-class discussions to evaluate and improve these drafts."

Similarly, another expert highlighted the role of AI in supporting scaffolding and revision rather than autonomous writing:

"GAIWM can be incorporated as a support tool for tasks like paraphrasing, summarizing research, or generating content for specific sections of an essay."

This theme indicate that experts view GAIWM as a pedagogical scaffold that enhances instructional efficiency while preserving teacher authority and human judgement. Rather than encouraging autonomous AI-generated writing, participants stressed the importance of instructor mediation to ensure that learning objectives related to academic reasoning, argumentation, and disciplinary conventions remain central.

4.2 Alignment of GAIWM with Mandarin Academic Writing Conventions

A second prominent theme concerns the necessity for GAIWM to align with the linguistic, cultural, and academic norms of Mandarin Chinese writing. Experts stressed that generic AI tools are insufficient unless they support Mandarin syntax, academic tone, and disciplinary conventions.

One expert emphasized linguistic and functional criteria in AI selection:

"The model must support Mandarin syntax and semantics, provide detailed feedback, and adapt to students' proficiency levels. Customization for academic tone is also crucial."

Another expert highlighted the importance of AI tools that align with academic conventions and research processes:

"Accuracy in Mandarin grammar correction, ease of use, and alignment with academic writing conventions are key. Tools should also include plagiarism detection."

Experts also identified platforms designed specifically for Chinese learners as particularly valuable:

"Platforms such as deepseek, DOUBAO, WPS A, 知网 AI 等… are particularly useful because they account for cultural and linguistic nuances in academic writing."

These findings suggest that effective GAIWM integration depends not only on technological capability but also on contextual compatibility. Experts prioritised AI tools that align with Mandarin academic discourse norms, disciplinary expectations, and institutional standards, reinforcing the importance of context-sensitive AI adoption in non-English academic writing environments.

4.3 Structured Instructional Design and Assessment of AI-Based Activities

Experts underscored the importance of intentional instructional design, particularly regarding the duration, frequency, and assessment of GAIWM-based activities. Rather than continuous or unrestricted use, AI activities were described as most effective when carefully timed and pedagogically regulated.

Regarding duration and frequency, experts offered varied but structured recommendations:

"Each GAIWM-based activity should last 20–30 minutes… once or twice per week seems optimal."

"Short, frequent activities (10–15 minutes) during each session would be most effective."

Assessment practices focused strongly on process-based evaluation rather than AI-generated outputs alone. One expert noted:

"Portfolios that include initial drafts, AI-assisted versions, and final essays allow teachers to evaluate progress."

Another expert emphasized students' critical engagement with AI:

"Rubrics that measure students' engagement with AI tools and their ability to critically revise AI-generated content can ensure fair assessment."

This theme highlights that meaningful learning outcomes depend on structured AI use and reflective assessment strategies. Additionally, these findings indicate that lecturers favour assessment strategies that foreground writing development, reflective revision, and responsible AI use, rather than rewarding AI-generated text alone.

4.4 Challenges, Ethical Concerns, and Professional Development Needs

Despite recognizing the pedagogical potential of GAIWM, experts identified several challenges related to implementation, ethics, and capacity building. A major concern was the risk of student over-reliance on AI tools.

As one expert cautioned:

"Students may become over-reliant on AI, and there might be resistance from educators unfamiliar with the technology."

Others noted technical limitations and inconsistencies in AI outputs:

"The main limitation is the lack of Mandarin-specific models."

"Inconsistencies in AI-generated outputs pose a challenge."

To address these issues, all experts emphasized the need for systematic professional development:

"Workshops on AI functionalities, ethical considerations, and best practices for integrating GAIWM into writing instruction are essential."

This theme positions teacher training and ethical guidance as foundational conditions for sustainable GAIWM integration.

Based on Fig. 1, the thematic model illustrates the dynamic relationships among four core themes identified in the study. At the center of the model is Pedagogically Guided GAIWM Integration, representing AI as a supportive instructional scaffold rather than an autonomous writing agent. This core is directly shaped by Alignment with Mandarin Academic Writing Conventions, emphasizing linguistic accuracy, academic tone, and cultural relevance.

Surrounding these central elements is Structured Instructional Design and Assessment, which regulates how, when, and for what purposes GAIWM is used in teaching and learning. This includes controlled duration, task-specific deployment, and process-oriented assessment practices. Encapsulating the entire model is Challenges and Professional Capacity Building, reflecting ethical concerns, technological limitations, and the necessity of continuous teacher training. Together, the model demonstrates that effective GAIWM integration emerges from the interaction of pedagogy, context, instructional design, and institutional support, rather than from technological adoption alone.

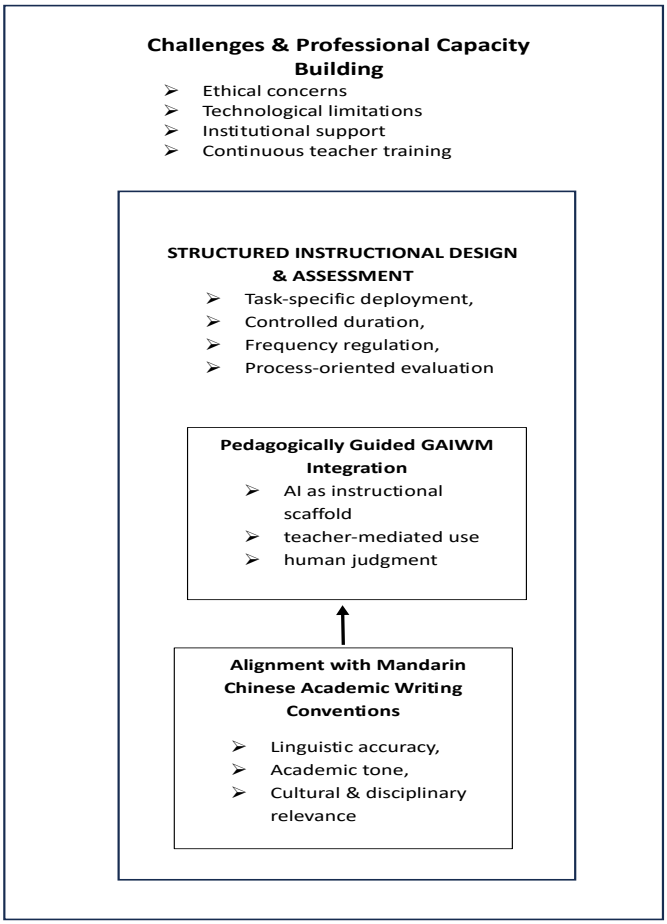

Fig. 1 Proposed Thematic Model of GAIWM Integration in Mandarin Chinese Academic Writing Instruction

5. Discussion

This study explored lecturers' perspectives on integrating Generative AI Writing Models (GAIWM) into Mandarin Chinese academic writing instruction, addressing four research questions related to pedagogy, instructional resources, design and assessment, and implementation challenges. The findings reveal a coherent pedagogical orientation that positions GAIWM as a supportive instructional scaffold rather than an autonomous writing agent, reinforcing emerging consensus in the AI-in-education literature (Kasneci et al., 2023; Pedro et al., 2019).

Consistent with prior studies on AI-assisted writing, lecturers in this study emphasized the value of GAIWM for pre-writing and revision activities, such as brainstorming, outlining, paraphrasing, and language refinement (Yan, 2023). However, unlike research that highlights productivity gains as the primary benefit of generative AI, the present findings foreground teacher mediation and pedagogical intentionality as central to effective integration. This supports sociocultural perspectives on learning, which emphasize guided participation and scaffolding over automation (Vygotsky, 1978).

A key contribution of this study lies in its focus on Mandarin Chinese academic writing, a context that remains underrepresented in AI writing research. Lecturers' insistence on aligning AI tools with Mandarin syntax, academic tone, and cultural conventions underscores the limitations of generic, English-centric AI models. This finding extends previous work on disciplinary discourse and academic writing pedagogy by demonstrating that AI integration must be linguistically and culturally contextualized to be pedagogically meaningful (Hyland, 2004; Kim & Kim, 2022).

The findings also highlight the importance of structured instructional design and assessment. Lecturers rejected unrestricted AI use in favor of controlled, task-specific deployment and process-oriented evaluation strategies, such as portfolio assessment and reflective rubrics. This aligns with recent calls for assessment redesign in AI-enhanced learning environments, where the emphasis shifts from final products to learning processes and critical engagement (Cotton et al., 2023).

Finally, the study reveals persistent challenges related to ethical concerns, technological limitations, and professional readiness. Lecturers' concerns about student over-reliance, inconsistent AI outputs, and limited Mandarin-specific models echo broader debates on AI literacy and academic integrity (Francis et al., 2025). Importantly, participants positioned professional development not as optional support but as a foundational requirement for sustainable and ethical AI integration. This reinforces the argument that successful adoption of generative AI in education depends

as much on institutional capacity and teacher expertise as on technological advancement. These findings support the proposed thematic model, which conceptualizes effective GAIWM integration as an interaction among pedagogy, linguistic context, instructional design, and professional capacity, rather than a technology-driven process.

6. Conclusion

This study examined lecturers' perspectives on the integration of Generative AI Writing Models (GAIWM) into Mandarin Chinese academic writing instruction, with particular attention to pedagogy, instructional design, assessment practices, and implementation challenges. Drawing on qualitative insights from experienced lecturers, the study demonstrates that effective AI integration in academic writing is fundamentally pedagogy-driven rather than technology-driven. Lecturers consistently positioned GAIWM as a supplementary instructional scaffold that supports students' writing development under deliberate teacher guidance, rather than as a substitute for human authorship or critical thinking.

A central conclusion of the study is that contextual alignment matters. The findings underscore that generative AI tools must be carefully adapted to the linguistic, rhetorical, and cultural conventions of Mandarin Chinese academic writing. This challenges the implicit assumption in much of the existing AI-in-writing literature, largely grounded in English-dominant contexts that AI tools are universally transferable across languages and academic traditions. Instead, the study affirms that meaningful learning outcomes depend on linguistically and culturally responsive AI use.

The study also concludes that structured instructional design and process-oriented assessment are critical to responsible GAIWM adoption. Lecturers' preference for guided tasks, staged writing activities, and reflective assessment practices highlights a shift away from product-focused evaluation toward an emphasis on learning processes, metacognitive awareness, and ethical engagement with AI tools. Such approaches not only mitigate risks of over-reliance but also promote deeper academic writing competence.

Furthermore, the findings reveal that ethical concerns, technological limitations, and professional readiness remain significant barriers to sustainable implementation. Lecturers' emphasis on professional development reinforces the conclusion that institutional investment in AI literacy, pedagogical training, and policy support is essential. Without such capacity-building measures, the educational potential of generative AI risks being undermined by misuse, inequitable access, and pedagogical misalignment.

7. Study Implications

7.1 Pedagogical Implications

The study offers clear pedagogical implications for academic writing instructors. First, GAIWM should be integrated as guided scaffolding tools, particularly at the planning and revision stages, rather than as substitutes for student writing. Lecturers should explicitly teach students how to critically evaluate, revise, and reflect on AI-generated content to foster metacognitive awareness and academic integrity. Second, writing instruction should incorporate AI literacy components, enabling students to understand both the affordances and limitations of generative AI. This includes instruction on ethical use, bias awareness, and disciplinary appropriateness of AI-generated text.

7.2 Curriculum and Assessment Implications

From a curriculum perspective, the findings support the adoption of process-oriented assessment models, such as writing portfolios and reflective commentaries that capture students' learning trajectories rather than isolated outputs. Rubrics should assess students' engagement with AI tools, revision quality, and analytical decision-making.

7.3 Institutional and Professional Development Implications

At the institutional level, the study highlights the need for structured professional development programs focused on generative AI in writing education. Training should address pedagogical integration strategies, ethical considerations, and discipline-specific applications, particularly in non-English academic contexts. Institutions should also develop clear policy guidelines to support responsible AI use while preserving academic standards.

8. Limitations and Future Research Directions

Despite its contributions, this study has several limitations. First, the research was conducted at a single institution, which may limit the generalizability of the findings to other higher education contexts. Second, the study focused exclusively on lecturers' perspectives, without directly examining students' experiences, learning outcomes, or writing performance. Third, as a qualitative exploratory study, the findings do not establish causal relationships between GAIWM use and academic writing development.

Future research could address these limitations by adopting mixed-methods or longitudinal designs that examine how GAIWM integration influences students' writing proficiency over time. Comparative studies across institutions or disciplines would further enhance understanding of context-specific versus generalizable practices. Additionally, future work could investigate student perceptions, ethical reasoning, and AI literacy development, as well as the effectiveness of Mandarin-specific AI writing models in academic contexts.

Acknowledgement

The authors would like to thank fellow authors and organizations whose intellectual properties were utilized for this study.

Conflict of Interest

The authors declare no conflicts of interest.

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