

A Study on the Impact of Process Genre Approach Assisted by Artificial Intelligence on the Applied Writing Competence of Senior High School Students

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Abstract: This study investigates the impact of the Process Genre Approach (PGA) assisted by the AI platform KIMI on the applied writing competence of senior high school students. Building on the strengths of PGA in scaffolding learners' planning, drafting, and revising processes, KIMI was integrated as an intelligent feedback tool to provide real-time linguistic support. The findings indicate that AI-assisted instruction enhances students' abilities to understand genre features, organize ideas, and express meanings more effectively. In addition, KIMI's bilingual processing and context-sensitive explanations fostered students' emerging multilingual awareness, allowing them to compare language forms and reflect on cultural nuances in writing. To a certain extent, the integration of AI also contributed to developing learners' intercultural competence by exposing them to multiple ways of expressing ideas across linguistic and cultural contexts.

Keywords: process genre approach; applied writing; kimi; multilingual awareness

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1. Introduction

The High School English Curriculum Standards (2017 edition, revised in 2020) categorize students' language skills into Comprehension Skills and Expressive Skills. Currently, high school students face several challenges in writing applied texts, including an inability to identify writing purposes, deficiencies in vocabulary accumulation and grammatical usage, lack of identity in writing structure, insufficient fluency in language expression, and the absence of personal writing feedback. At the same time, the Curriculum Standards emphasize the integration of information technology with pedagogical methods.

Therefore, this study employs the KIMI platform as a representative example of Artificial Intelligence (AI) and investigates the KIMI-assisted process genre approach (PGA) as a whole to examine its impact on high school students' applied writing ability, specifically comprehensive and expressive skills. On the one hand, the KIMI platform, with its robust database, interactivity, timely feedback, and personalized assistance can address the current difficulties in applied text writing and enhance students' comprehension skills and expressive skills. On the other hand, it also provides teachers with new avenues for teaching and practicing applied writing.

Moreover, although the present study does not aim to develop students' multilingual competence, the integration of AI-generated texts within the Process Genre Approach exposes learners to diverse linguistic patterns and stylistic resources. This aligns with multilingual perspectives which argue that language learning is a dynamic process of drawing on multiple linguistic and cultural resources to make meaning (Cenoz & Gorter, 2011; García & Li Wei, 2014). The comparative nature of genre-based writing—especially when supported by AI's multi-version outputs—may indirectly enhance learners' language awareness and broaden their repertoire of functional expressions.

2. The Application of Process Genre Approach In Writing

The Process Genre Approach (PGA), developed by Badger and White (2000), integrates the strengths of both product and process approaches while incorporating genre analysis to emphasize the social context and purpose of

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writing. PGA combines language knowledge, context awareness, and writing skills, offering a comprehensive method that engages students in both language production and understanding specific writing contexts. It has gained significant attention in writing instruction, addressing common student challenges such as lack of ideas, repetitive essays, and confusion over genre-specific structures. By analyzing model texts, PGA provides students with the necessary language and contextual knowledge to write effectively.

Building on this framework, Hyland (2003, 2004) further demonstrated that explicit genre instruction—particularly the teaching of rhetorical structures and communicative purposes—can significantly enhance learners’ textual organization and audience awareness. More recent empirical studies also support the efficacy of PGA. Emilia and Hamied (2015) reported substantial improvements in Indonesian secondary students’ analytical exposition writing when exposed to a PGA cycle that combined model text analysis and scaffolded drafting. Similarly, Cheng (2018) found that PGA-based instruction promoted Chinese EFL learners’ control over genre-specific linguistic features and improved the overall coherence of their essays. In higher education contexts, Yasuda (2011) showed that the approach strengthened Japanese learners’ understanding of genre conventions and facilitated transfer of writing strategies across tasks. Collectively, these studies indicate that PGA not only enhances learners’ writing performance but also cultivates metacognitive and metalinguistic awareness, making it a robust framework for L2 writing instruction across diverse educational settings.

3.Review of Evaluation of various AI platforms

In recent years, the rapid development of large-scale language models has led to the emergence of a variety of AI-powered platforms, many of which have been adopted in educational settings to enhance reading, writing, and overall language proficiency. Among these platforms, ChatGPT, Kimi, and Doubao have received particular attention in China due to their accessibility and potential for classroom integration.

ChatGPT has been the focus of the largest body of empirical research. Studies consistently highlight its effectiveness in supporting L2 writing and reading through interactive dialogue, real-time feedback, and scaffolded text generation. Mahapatra (2024), through a mixed-methods intervention study, found that ChatGPT significantly improved ESL learners’ organization, vocabulary range, and idea development in academic writing tasks. In another recent experiment, Rad (2025) demonstrated that AI-assisted interventions can enhance L2 reading comprehension by strengthening learner engagement and self-regulated learning behaviors. These findings collectively suggest that ChatGPT and similar generative AI systems can function as responsive writing and reading tutors, offering individualized support that aligns with process-based learning.

In the Chinese context, interest has also grown around domestically developed platforms such as Kimi and Doubao, which are designed with Chinese-language corpora and localized user interfaces. Although academic research on these platforms is still emerging, early applications show promise. Yao (2025) examined secondary school English teachers’ use of Kimi as an AI-guided feedback assistant and found that it enhanced the accuracy of formative assessment and helped teachers provide more targeted revision suggestions. Similar developments are observed with Doubao, which has been increasingly integrated into reading instruction. Recent educational reports and classroom-based case studies indicate that Doubao’s Chinese-English bilingual processing enables it to offer vocabulary explanations and reading support tailored to Chinese learners’ specific difficulties, particularly in word recognition and text interpretation (Xu, 2024). These emerging findings highlight the growing potential of localized AI platforms to complement global models like ChatGPT by offering culturally and linguistically relevant scaffolding.

Taken together, existing research shows that while ChatGPT currently has the strongest empirical foundation, platforms such as Kimi and Doubao hold significant promise for Chinese classrooms due to their alignment with local learner needs and their capacity to draw on Chinese-language corpora. For this reason, Kimi is selected in the present study as a representative domestic AI platform with strong potential for integration into English writing

instruction.

4. Research Design

4.1 Research Subjects

This study was conducted with two senior high school classes in Changsha from September 9, 2024, to December 9, 2024, lasting 14 weeks. A total of 81 students participated, all taught by the same teacher. To determine the suitability of these classes for the experiment, a pre-experiment test was conducted. The analysis of the students' English proficiency and writing competence showed that the average performance of the two classes was highly similar, making them appropriate research subjects. Class Three was designated as the experimental class (EC), and Class Five served as the control class (CC).

During the experiment, both classes were taught using identical teaching content to ensure the reliability of the results. The key difference was that the EC class received instruction through a KIMI-assisted process genre approach for applied writing, while the CC class followed traditional PGA.

Additionally, permission was obtained from school administrators to use the artificial intelligence platform KIMI in the classroom. To maximize the effectiveness of the intervention, the researcher studied the process genre approach in depth, including its core principles and instructional steps. The researcher also familiarized herself with KIMI's functions, customizing it by "feeding" relevant teaching steps, key concepts of the process genre approach, and details about the students' learning abilities, styles, and current English writing levels. This preparation enabled KIMI to provide more targeted assessments and personalized feedback to students, enhancing the learning experience in the EC class.

4.2 Research Methods

This study employs a mixed-methods approach, integrating quantitative and qualitative research methodologies to provide a comprehensive analysis of the impact of the KIMI-assisted process genre approach on students' applied writing skills. The research process is divided into pre-experimental, experimental, and post-experimental phases.

4.3 Research Process

In the experiment, I went to the senior high school of practice in Changsha and followed the practical mentor in Class 3 and Class 5 for a two-week observation period. The purpose of this process was to gain an depth understanding of these students' learning situations and writing abilities in these two classes. In addition, the author through the observation to summary the problems both in teaching and writing of teachers and students. At the same time, I collected students' writing scripts and scores from the first monthly exam of the first semester as the data to evaluate their English levels for the experiment with SPSS 27.

During the experiment, the experimental class (EC) and control class (CC) are taught applied writing by the same teacher. In the writing instruction of the EC, the teacher utilizes the KIMI platform to assist with lesson preparation phase, In-lesson Instruction phase and post-lesson assessment phase, while also applying the teaching steps of PGA and the details as below .

Based on the articulation of Han Jinlong (2001) which divided the teaching process into four phases: Pre-writing preparation stage, demonstration and planning stage, independent writing stage, and the evaluation and revision stage. Then, the teaching material is the Yilin Oxford edition of high school textbook and the learning of the reading from this textbook was regarded as the background knowledge as well as combined it with the PGA assisted by the KIMI to guide students in writing a speech script which is an application genre of writing.

5. Discussion

5.1 Impact on Students' Comprehension Skills

Experimental data reveals that 78% of students in the experimental class (EC) adhered strictly to the provided structure template in the post-test, producing coherent and well-organized compositions. In contrast, only 45% of

students in the control class (CC) managed to follow a standard format. Additionally, the KIMI platform offers real-time feedback on paragraph organization, logical flow, and grammatical accuracy, enabling students to refine their content continuously.

For example, in a task titled “Write an invitation letter to invite a friend to a school environmental protection event,” 34% of CC students failed to properly segment their content, with some mixing event background and time/location in one paragraph, resulting in disorganized compositions. On the other hand, most EC students successfully followed the platform’s template. One student wrote the following in the body section:

Time: This Friday at 3 p.m.;

Location: School auditorium;

Content: Watching videos and attending lectures on the importance of environmental protection, followed by a campus clean-up activity.

This writing example demonstrates how the KIMI platform effectively supports content organization and improves students’ logical clarity. And the importance of task analysis and key information extraction has been widely recognized in existing studies. For instance, Zhao Junfeng (2019) emphasized that students often overlook details in task requirements during the writing process, and AI-assisted tools can help identify and extract critical information, thereby improving the quality of writing. Other studies have shown that AI writing tools significantly enhance students’ understanding of writing objectives, enabling them to thoroughly analyze task requirements and plan their content effectively (Wang Lei, 2021).

Additionally, Chen Hui (2020) found through experimental research that the application of natural language processing in AI writing platforms not only identifies students’ weaknesses in writing but also provides tailored guidance based on genre-specific needs. This aligns with the functions of the KIMI platform in this study, where EC students achieved an average post-test score improvement of 1.08 points compared to the CC students (10.02 vs. 8.94).

5.2 The Impact on Students' Expressive Skills

EC students demonstrated varying degrees of improvement in vocabulary usage, sentence structure, genre awareness, example sentences provided, and conclusion writing. The KIMI-assisted Process Genre Approach (PGA) played a crucial role in these improvements by offering students a more extensive range of vocabulary and sentence structures, facilitating their accumulation of genre-specific patterns and expressions. Compared to traditional PGA without AI assistance, KIMI provides distinct advantages in applied writing instruction.

Firstly, KIMI enhances students’ lexical diversity by offering real-time, context-specific vocabulary suggestions. In conventional PGA, students primarily rely on teacher explanations and reference materials, which may limit their exposure to a broad lexical range. With KIMI, students receive immediate recommendations for synonyms, collocations, and contextually appropriate word choices. For instance, instead of repeatedly using “important,” students are introduced to more nuanced alternatives like “essential,” “significant,” or “crucial,” depending on the writing context. This feature allows students to develop a richer vocabulary repertoire applicable across various writing genres.

Secondly, KIMI improves students’ sentence structure proficiency by providing well-structured model sentences tailored to specific writing tasks. In traditional PGA, students often struggle with constructing complex sentences due to limited exposure to diverse syntactic patterns. With KIMI, they gain access to pre-structured sentence templates that align with different genres. For example, in argumentative writing, students can utilize sentence structures such as “One of the key reasons for this phenomenon is...” or “It is widely acknowledged that...” In contrast, for business correspondence, KIMI provides phrases like “I am writing to inquire about...” or “Please find attached...” This targeted sentence support enables students to adopt appropriate structures in different contexts, enhancing both clarity and coherence.

Additionally, KIMI aids in genre awareness by guiding students through the structural conventions of various writing types. Traditional PGA requires teachers to explicitly explain genre structures, which can be time-consuming and may not cater to individual student needs. With KIMI, students receive automated breakdowns of genre-specific writing frameworks. For example, when composing a complaint letter, students can follow prompts suggesting an introduction ("I am writing to express my dissatisfaction with..."), body paragraphs outlining the issue and supporting evidence, and a conclusion with a call to action. This structured support helps students internalize genre conventions more effectively.

Finally, KIMI enhances writing efficiency and feedback quality. Unlike traditional PGA, where feedback is often delayed until teacher review sessions, KIMI provides instant suggestions for grammar, coherence, and appropriateness.

5.3 Impact on Students' intercultural competence

Beyond improving writing fluency and genre awareness, AI-assisted writing instruction also opens new possibilities for cultivating students' intercultural competence through multilingual exemplification. When AI tools generate multiple versions of a sentence, offer comparisons between English and Chinese expressions, or provide etymological explanations rooted in Latin, Greek, or other linguistic traditions, they expose learners to the dynamic interplay between languages. This aligns closely with Humboldt's view that language is not merely a vehicle of communication but a way of perceiving and organizing the world (*Weltansicht*). By encountering multilingual explanations or culturally nuanced alternatives provided by AI, students become increasingly aware that linguistic choices reflect different cultural logics and worldviews. Such exposure helps students recognize that writing is a culturally situated act that varies across communities, genres, and communicative purposes.

Moreover, multilingual exemplification supports students in developing a broader linguistic repertoire, enabling them to perceive connections across languages rather than treating English in isolation. This resonates with contemporary multilingual education research, which views language learning as a dynamic process of drawing on diverse linguistic resources to construct meaning. In AI-supported classrooms, this process can be made more explicit: learners can compare sentence patterns, rhetorical structures, or verb choices across languages, guided by AI's instant feedback and examples. As a result, students not only deepen their metalinguistic awareness but also cultivate intercultural sensitivity—an essential component of the English curriculum's emphasis on cultural competence. In this sense, the integration of Humboldtian multilingual perspectives into AI-guided writing instruction enriches the educational value of such tools by helping students understand that languages encode distinct cultural experiences, thereby strengthening their ability to navigate intercultural communication.

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