EMPOWERING COLLEGE ENGLISH WRITING INSTRUCTION WITH CHATGPT: INTEGRATION OF TEACHER-AI-STUDENT FRAMEWORK AND POA

Li Li

School of Foreign Studies, South China Agricultural University, Guanzhou 510640, Guangdong, China.
Corresponding Email: 952771716@qq.com

Abstract: This study seeks to optimize the Production-Oriented Approach (POA) by integrating ChatGPT to enhance college English writing instruction. Building on the three stages of POA, a refined instructional model—GUIDE—is proposed, consisting of five stages: Generating, Understanding, Integrating, Designing, and Evaluating. The study further examines the application of this model, highlighting the critical role of ChatGPT in supporting teachers with task design and guiding students in its effective and ethical use. By addressing challenges such as technological dependence and academic integrity, this approach explores potential strategies and provides practical insights that contribute to the advancement of college English writing pedagogy.
Keywords: ChatGPT; College English writing; Teacher-AI-Student framework; POA; GUIDE model

1 INTRODUCTION

With the rapid development of artificial intelligence technologies, the application of ChatGPT in the field of education has garnered widespread attention. Its powerful language generation capabilities and instant feedback functions present new possibilities for college English writing instruction [1-2]. Studies have shown that ChatGPT can support the development of personalized learning resources, provide writing guidance, and foster critical thinking skills [3-4]. However, the widespread use of ChatGPT has also raised concerns regarding technological dependence, content accuracy, and academic integrity [5]. Against this backdrop, it is crucial to explore practical models that can fully leverage the advantages of this technology while optimizing teaching outcomes.

The Production-Oriented Approach (POA) is a learner-centered teaching theory that achieves instructional objectives through three stages: "motivating," "enabling," and "assessing" [6]. Since its introduction, it has gained popularity in writing instruction by constructing authentic contexts and sparking students' curiosity [7-9]. However, it faces challenges related to the efficiency of material acquisition and the provision of timely feedback [10]. The advent of ChatGPT offers an opportunity to enhance this teaching approach, thereby improving educational outcomes. This research focuses on leveraging ChatGPT to enhance the POA framework, aiming to improve college English writing instruction.

2 LITERATURE REVIEW

2.1 The Application of ChatGPT in Education

The application of ChatGPT in education has emerged as a rapidly growing area of research, showcasing significant potential. Studies highlight its ability to support personalized learning resources, enhance writing instruction, and foster the development of critical thinking skills [11-12]. ChatGPT is particularly effective in assisting students with tasks such as preparing outlines, revising content, proofreading, and reflecting on their writing, making it a valuable tool for improving students' writing skills and reducing the workload of teacher feedback [13]. Its role is also confirmed in enhancing the efficiency of second language writing assessment [14]. Furthermore, generative AI technologies, such as ChatGPT, can promote critical thinking, but they stressed the importance of students critically evaluating the generated content and refining their prompts [15].

AI technologies like ChatGPT are transforming traditional teaching frameworks from a "teacher-student" binary structure to a "teacher-AI-student" ternary structure [16]. This shift emphasizes collaboration among teachers, students, and AI, promotes the transition of teaching content from manual production to intelligent production, and supports an evaluation model that integrates "knowledge and competence." However, most current studies focus on the overall impact and potential applications of ChatGPT in foreign language teaching, while research on its integration with specific teaching methods remains limited [17]. Guided by POA, an experimental approach was undertaken with GPT-4 to create communicative scenarios [18], with limited application in real classroom settings.

2.2 Integration of POA and ChatGPT

POA emphasizes learning in authentic contexts, guiding students to complete tasks through facilitation and fostering reflection and improvement through evaluation [19-20]. Despite its effectiveness in constructing authentic learning

environments, POA faces challenges in fully supporting student autonomy and engagement, such as inefficiencies in providing timely feedback and difficulties in acquiring diverse teaching materials, which limit its practical application. To address these issues, a human-machine collaborative strategy known as COPILOTS is suggested [21]. However, this model lacks detailed exploration of task design and implementation. These challenges necessitate innovative solutions to enhance the POA framework and improve teaching outcomes.

The integration of AI technologies, such as ChatGPT, offers promising opportunities to address these limitations. ChatGPT can improve feedback efficiency, provide diverse teaching resources, and support independent learning by offering personalized assistance and instant feedback [22-23]. For example, it can assist students in preparing outlines, revising content, and reflecting on their writing, while also reducing the workload of teachers by automating repetitive feedback tasks. However, concerns regarding technological dependence, content accuracy, and academic integrity remain critical issues that require careful management [24]. Educators play a pivotal role in guiding students toward the ethical and effective use of ChatGPT, ensuring its application fosters independent thinking and minimizes risks to academic integrity.

Building on the three stages of POA—motivating, enabling, and assessing—the GUIDE model integrates ChatGPT to refine and extend the approach. By leveraging ChatGPT's capabilities, the GUIDE model addresses POA's limitations in feedback efficiency and material preparation. It optimizes task design, enhances teacher-AI-student collaboration, and supports students in developing critical thinking and academic integrity. This integration provides a structured pathway for incorporating AI into college English writing instruction, offering practical insights for improving teaching effectiveness and student outcomes.

This study explores the integration of ChatGPT with the POA through the teacher-AI-student collaborative GUIDE model. By refining and extending the POA, GUIDE offers a structured approach to fostering triadic interaction among teachers, AI, and students.

3 THE GUIDE MODEL IN WRITING INSTRUCTION

Based on the three-stage theory of POA — motivating, enabling and assessing — the GUIDE model integrates ChatGPT to address POA's limitations in feedback efficiency and material preparation. It introduces five stages: Generating, Understanding, Integrating, Designing, and Evaluating, aiming to optimize instructional design and foster teacher-AI collaboration.

(1) Generating: ChatGPT generates teaching materials and task scenarios, providing a foundation for instructional design.

(2) Understanding: Teachers evaluate and refine the AI-generated content to ensure alignment with students' needs and learning objectives.

(3) Integrating: Refined content is combined with teachers' expertise to create coherent and structured teaching activities.

(4) Designing: Tasks and evaluation criteria are developed to ensure effective implementation and achievement of learning goals.

(5) Evaluating: ChatGPT provides multi-dimensional feedback, complementing teacher evaluations and supporting students' iterative improvement.

The GUIDE model is dynamic and adaptable, enabling teachers to adjust each stage to specific instructional contexts. By establishing a collaborative framework among teachers, AI, and students, it offers an effective solution for college English writing instruction, particularly in enhancing feedback and personalized learning support (as shown in Figure 1).
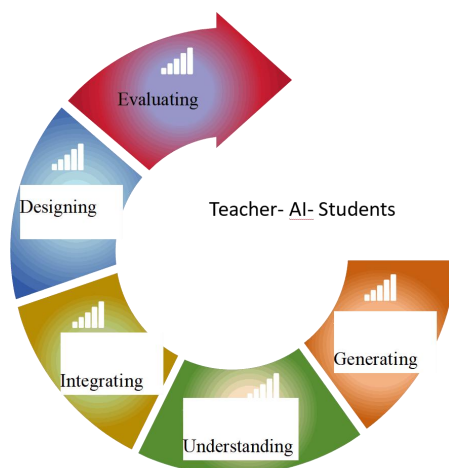

Figure 1 The GUIDE Model in Writing Instruction within the POA Framework

4 APPLICATION OF GUIDE MODEL IN WRITING INSTRUCTION

This research focused on second-year college students in a reading and writing course. Most students had passed CET-4, some CET-6, and a few were preparing for IELTS or TOEFL. With strong language skills and motivation, they were well-suited for POA-based instruction. The semester-long course lasted 12 weeks, with 2 class hours per week, and students completed one writing task every two weeks. The study explored expository, argumentative, and practical writing, using examples from students' assignments.

4.1 Application of GUIDE model in Expository Writing

Expository writing is a foundational aspect of college English, focusing on fostering clarity and coherence in presenting ideas. However, students often face challenges such as limited content, disorganized structure, and repetitive language. To address these difficulties, the teacher introduced a task titled "Live Streaming for My Hometown," leveraging ChatGPT to assist students in exploring their hometown's cuisine, scenery, history, or cultural traditions and presenting them through modern communication formats. This task was designed to enhance students' skills in cultural expression, organization, and intercultural communication.

In the generating phase, the teacher guided students to identify unique features of their hometown and live streaming formats (e.g., food tours or scenic introductions). ChatGPT provided resources such as background information, opening scripts, and language suggestions, enabling students to draft scripts quickly. For example, ChatGPT could generate background details ("My hometown is famous for its hand-pulled noodles, known for their chewy texture and rich flavor"), opening lines ("Welcome to my hometown! Today, I'll take you on a journey to explore the breathtaking landscapes of our region"), and optimized expressions (e.g., improving "The scenery here is beautiful." to "The scenery here is stunning, with rolling hills and crystal-clear rivers").

In the understanding and integrating phases, the teacher helped students refine their scripts using ChatGPT-generated outlines, ensuring a clear structure with an introduction, main content, and conclusion (as shown in Table 1).

Table 1 Outline Example for a Hometown Livestream Script

Introduction	Welcome to my hometown, a place full of breathtaking landscapes and rich cultural heritage.
Body 1	One of the most iconic dishes in my hometown is the spicy hotpot, which is not only delicious but also a symbol of togetherness in our culture.
Body 2	The hotpot tradition dates back to the Qing Dynasty, when it was a favorite meal of the royal family.
Body 3	If you visit, make sure to try the hotpot at Lao Ma's restaurant, which has been serving authentic flavors for over 50 years.
Conclusion	I hope you enjoyed this journey through my hometown. Come and experience the warmth, flavors, and beauty of our culture for yourself!

In the designing and evaluating phases, the teacher organized multi-level evaluations to help students refine their scripts. Students added details based on ChatGPT's feedback (e.g., "My hometown has a traditional snack called 'sugar painting,' an art form made of sugar in various shapes that is very popular among children") and used ChatGPT to check the coherence and accuracy of their peers' scripts. Teachers combined ChatGPT's feedback to assess students' performance in language, structure, and creativity, guiding further improvements.

With ChatGPT's support, students used modern formats (e.g., live streaming) to promote their hometown's culture. ChatGPT provided materials, outlines, and language suggestions, helping students build frameworks and improve clarity and vividness. The teacher enhanced cultural expression and intercultural communication skills through content filtering, discussions, and exercises. This practical and engaging design, rooted in students' lives, supports future learning and practice.

The teacher should guide students to use ChatGPT critically, ensuring accuracy and avoiding over-reliance. By encouraging students to analyze real-world cases, such as cultural traditions or local practices, they can enhance their originality, critical thinking, and academic integrity. Additionally, the teacher can foster intercultural communication skills by prompting students to compare their findings with global perspectives, helping them develop a deeper understanding of cultural diversity and effective expression.

4.2 Application of GUIDE model in Argumentative Writing Instruction

Argumentative writing requires students to craft well-reasoned arguments and defend their perspectives convincingly. As an essential aspect of college English, it often poses challenges, such as difficulties in constructing logical arguments, organizing ideas effectively, and articulating thoughts with clarity and precision. To tackle these issues, the teacher designed a task titled "The Impact of Artificial Intelligence on Employment," incorporating ChatGPT to support students in analyzing complex social topics while improving their logical reasoning and academic writing skills.

In the generating phase, the teacher prompted students to brainstorm arguments (e.g., "How does AI affect employment structures?" "How can we balance AI's opportunities and challenges?"). ChatGPT provided materials such as background information, data, and language suggestions. For example, it generated arguments ("The rise of AI has led

to significant job displacement, particularly in industries reliant on repetitive tasks") and refined expressions (e.g., improving "AI lets many people without jobs" to "The rise of AI has disrupted traditional job markets, creating both challenges and opportunities").

In the understanding and integrating phases, the teacher guided students to refine their essays using ChatGPT-generated outlines, ensuring clear structure (introduction, body, conclusion). Students supplemented arguments with data and examples, addressing issues like "limited evidence" by adding cases of AI creating new jobs to enhance persuasiveness.

In the designing and evaluating phases, students revised their work based on ChatGPT's feedback, such as adding statistics or reorganizing arguments. Peer reviews, supported by ChatGPT, helped check coherence and accuracy. The teachers combined ChatGPT's feedback to evaluate logic, language, and creativity, guiding further improvements (as shown in Table 2).

Table 2 Outline Example for an Argumentative Essay on AI and Employment

Introduction	Introduce the topic and its significance. Example: "AI is reshaping the job market, bringing both challenges and opportunities."
Point 1	Discuss the first main idea. Example: "AI has replaced repetitive jobs in industries like manufacturing and customer service."
Point 2	Analyze the second main idea. Example: "AI has created new roles, such as data scientists and AI trainers."
Point 3	Propose solutions or insights. Example: "Upskilling workers and implementing supportive policies can balance AI's impact on jobs."
Conclusion	Summarize key points and emphasize the importance of adapting to AI-driven changes. Example: "Embracing AI while addressing its challenges is key to a balanced job market."

By integrating ChatGPT, students significantly improved their ability to analyze complex issues and express ideas logically. ChatGPT provided resources, such as structured outlines, refined language suggestions, and relevant data, which helped students construct well-supported arguments. Teachers played a crucial role in ensuring the depth and accuracy of students' work by encouraging them to critically evaluate AI-generated content, refine their reasoning, and incorporate diverse perspectives. This process not only strengthened students' logical reasoning and academic writing skills but also promoted independent thinking and problem-solving abilities.

4.3 Application of GUIDE Model in Practical Writing Instruction

Survey-based essays are crucial in college English, fostering students' logical thinking, data analysis, and academic writing skills. However, challenges like unclear scope, weak analysis, disorganized structure, and improper language often arise. Integrating ChatGPT enhances teaching efficiency, aiding students in material collection, structure building, and language refinement.

Using the theme "Irrational Behavior," students investigated campus examples, analyzing causes, impacts, and solutions. This task helped them grasp survey report structures and improve critical thinking, data analysis, and academic expression.

In the generating phase, the teacher guided students to use ChatGPT for definitions, theoretical backgrounds, and examples (e.g., procrastination, impulsive spending, staying up late). ChatGPT also assisted in designing survey questions (e.g.,"What causes you to procrastinate?") and generating outlines, including Introduction (definition and purpose), Findings (results), Analysis (causes and impacts), Recommendations (solutions), and Conclusion (summary).

In the understanding and integrating phases, students refined their content using ChatGPT-generated outlines, incorporating data, theories, and strategies into their analysis. The following outline summarizes the structure students used to analyze irrational behavior, guided by ChatGPT-generated suggestions (as shown in Table 3).

Table 3 Outline for Analyzing Irrational Behavior

Introduction	Define irrational behavior and state the survey's purpose.
Findings	Present data (e.g., 68% of students admitted to procrastination").
Analysis	Explain causes using theories (e.g., "time discounting effect").
Recommendations	Suggest solutions (e.g., time management training).
Conclusion	Summarize findings and highlight significance.

In the designing and evaluating phases, students revised reports based on ChatGPT's feedback, ensuring logical coherence and accurate language. Peer reviews identified gaps like "lack of specific examples." The teacher combined ChatGPT's analysis to assess students' logic, language, and data use, guiding further improvement.

With ChatGPT and the GUIDE model, students completed tasks efficiently, improving language, logic, and data skills while deepening their understanding of irrational behaviors. This design integrates theory and practice, fostering critical thinking and academic writing. To investigate irrational behaviors among college students, the following sample questionnaire was designed as part of the study.

Sample Questionnaire (Simplified)
Topic: Survey on Irrational Behaviors Among College Students
1. How often do you engage in impulsive spending?
A. Once a week or more
B. 1-2 times a month
C. Rarely or never
2. Do you often procrastinate on completing academic tasks?
A. Yes
B. No
3. How many times a week do you stay up late?
A. Every day
B. 3-4 times a week
C. 1-2 times a week
D. Rarely or never

Teachers should guide students to critically evaluate and verify the sources and accuracy of data provided by ChatGPT, ensuring the reliability of their work. By encouraging students to analyze real-world cases, such as irrational behaviors observed on campus, and to propose innovative, evidence-based solutions, the task fosters creativity, critical thinking, and practical application. Additionally, teachers can emphasize the importance of integrating AI-generated content with students' independent research and insights, helping them develop a balanced approach to using technology. This process not only enhances students' logical reasoning and academic writing skills but also prepares them to address complex, societal challenges with originality and confidence.

5   ROLES OF TEACHER, AI AND STUDENTS IN THE GUIDE MODEL

The GUIDE model, structured around generating, understanding, integrating, designing, and evaluating, defines clear roles for teachers, students, and AI (e.g., ChatGPT) to achieve teaching goals. Teachers lead the process, designing tasks, guiding activities, and ensuring effective use of technology. Students actively participate, enhancing learning through engaging and critical thinking. ChatGPT provides technical support, offering instant feedback and personalized assistance.

Teachers oversee all stages: designing questions and filtering materials in the generating phase, analyzing and adjusting content in the understanding phase, organizing activities in the integrating phase, setting tasks and criteria in the designing phase, and conducting multidimensional evaluations in the evaluating phase. Their professional judgment ensures teaching quality.

Students use ChatGPT to gather materials, filter information, integrate personal ideas, refine expressions, and reflect through self- and peer-assessment. Interaction with ChatGPT improves their language, critical thinking, and intercultural communication skills.

ChatGPT supports all phases by providing materials, optimizing language, generating analyses, identifying issues, and offering feedback. While it improves efficiency, challenges like inconsistent quality and over-reliance require teacher guidance.

The GUIDE model highlights teacher leadership, student engagement, and technological support. Effective implementation requires addressing issues like technological dependence, teacher proficiency, and student independence, with ongoing optimization to refine teaching design.

6   CONCLUSION

This study, based on the GUIDE model and POA's "motivating-enabling-assessing" framework, explores ChatGPT's role in college English writing. The GUIDE model integrates teacher leadership, student participation, and technological assistance, offering a systematic teaching solution. ChatGPT enriches the motivating phase with diverse materials, supports the enabling phase with feedback and language optimization, and enhances the assessing phase with multi-level evaluations, improving students' language and critical thinking skills.

Challenges include over-reliance on technology, inconsistent content quality, academic integrity issues, and limited teacher proficiency. Future efforts should guide students, design original tasks, foster independent thinking, and explore ChatGPT's potential across proficiency levels and disciplines, providing innovative approaches for English writing instruction.

COMPLETING INTERESTS

The author has no relevant financial or non-financial interests to disclose.

of Blended Foreign Language Teaching in Higher Education Oriented Towards Deep Learning (2019236)

REFERENCES

[1] Li Xiaowen, XV Yuanyuan, Zhai Xuesong, et al. Empowering university student development with generative AI: International experiences and China's pathways. China Distance Education, 2024, 44(12), 36-49. DOI: 10.13541/j.cnki.chinade.2024.12.001.

[2] Strzelecki A. ChatGPT in higher education: Investigating bachelor and master students' expectations towards AI tool. Education and Information, Technologies, 2024. DOI: 10.1007/s10639-024-13222-9.

[3] Adel A, Ahsan A, Davison C. ChatGPT promises and challenges in education: Computational and ethical perspectives. Education Sciences, 2024, 14(8): 814. DOI: 10.3390/educsci14080814.

[4] Memarian B, Doleck T. ChatGPT in education: Methods, potentials, and limitations. Computers in Human Behavior: Artificial Humans, 2023, 1(2): 100022. DOI: 10.1016/j.chbah.2023.100022.

[5] Bouteraa M, Bin-Nashwan S A, Al-Daihani M, et al. Understanding the diffusion of AI-generative (ChatGPT) in higher education: Does students' integrity matter? Computers in Human Behavior Reports, 2024, 14: 100402. DOI: 10.1016/j.chbr.2024.100402.

[6] Wen Qiufang. Theoretical framework and practice of the Production-Oriented Approach. Foreign Language Education Research, 2015, 18(2): 1-10.

[7] Sun Shuguang. An example analysis of the principles of teacher-student collaborative evaluation in the "Production-Oriented Approach." Frontiers in Foreign Language Education Research, 2020, 3(2): 20-27, 90-91.

[8] Zhang Lingli. A study on the teaching effectiveness of the "Production-Oriented Approach." Modern Foreign Languages, 2017, 40(3): 369-376, 438.

[9] Zhang Wenjuan. A self-narrative study of college foreign language teachers applying the "Production-Oriented Approach." Chinese Foreign Languages, 2020, 17(1): 60-67. DOI: 10.13564/j.cnki.issn.1672-9382.2020.01.009.

[10] Wang Haixiao. Exploring the application of generative artificial intelligence in the reform of college English teaching: A case study of teaching reform in the "General Academic English Writing" course. Frontiers in Foreign Language Education and Research, 2024, 7(4): 41-50, 95. DOI: 10.20083/j.cnki.fleic.2024.0036.

[11] Suriano M. Exploring AI in education: Current trends and future possibilities. Journal of Educational Technology, 2024, 30(1): 55-67.

[12] Aljanahi A M, Alqahtani M A. The role of AI tools in enhancing personalized learning: A systematic review. Computers and Education: Artificial Intelligence, 2023, 5: 100123. DOI: 10.1016/j.caeai.2023.100123.

[13] Su Yanfang, Lin Yu, Lai Chun. Collaborating with ChatGPT in argumentative writing classrooms. Journal of Second Language Writing, 2023, 57: 100752. DOI: 10.1016/j.asw.2023.100752.

[14] Barrot J S. Using ChatGPT for second language writing: Pitfalls and potentials. Assessing Writing, 2023, 57: 100745. DOI: 10.1016/j.asw.2023.100745.

[15] Essel H B, Vlachopoulos D, Adom D. Generative AI in higher education: Implications for critical thinking and academic integrity. Educational Technology and Society, 2023, 26(3): 45-58.

[16] Yang Z K, Wang J, Wu D, et al. Exploring the impact of ChatGPT/generative AI on education and response strategies. Journal of East China Normal University (Educational Sciences Edition), 2023, 41(7): 26-35. DOI: 10.16382/j.cnki.1000-5560.2023.07.003.

[17] Chen Mo, Lü Mingchen. College English writing instruction in the ChatGPT environment. Contemporary Foreign Language Studies, 2024(1): 161-168.

[18] Xu Jiajin, Zhao Chong. Applications of large language models in foreign language teaching and research. Foreign Language Teaching and Research Press, 2024.

[19] Wen Qiufang. The Production-Oriented Approach and college English writing instruction. Foreign Language Teaching, 2020, 41(2): 1-6.

[20] Zhang Wenjuan. An Experimental Study on the Impact of POA on College English Writing. Modern Foreign Languages, 2017, 40(3): 377-385.

[21] Li Dongqing. Human-AI collaborative POA teaching design supported by ChatGPT. Foreign Language Education in China, 2024, 7 (4): 58-64.

[22] Bin-Nashwan S A, Sadallah M, Bouteraa M. Use of ChatGPT in academia: Academic integrity hangs in the balance. Technology in Society, 2023(75): 102370. DOI: 10.1016/j.techsoc.2023.102370.

[23] Pesovski I, Santos R, Henriques R, et al. Generative AI for customizable learning experiences. Sustainability, 2024, 16(7): 3034. DOI: 10.3390/su16073034.

[24] Cotton D R E, Cotton P A, Shipway J R. Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. Innovations in Education and Teaching International, 2023, 60(2): 117-128. DOI: 10.1080/14703297.2023.2190148.