

Chinese College EFL Teachers' Perceptions and Practices of Using Deepseek for Providing Written Corrective Feedback

1. Background

Recently, the advent of Artificial Intelligence (AI) tools, which include text-based AI (e.g., ChatGPT and Deepseek), text to image AI (e.g. Dall.E), text to video AI (e.g. Fliki) and text to presentation AI (e.g. Gamma and PopAI) has brought transformative impacts in the field of language education (Li, 2024). AI is considered an emerging technology which provides tremendous pedagogical potential (Kohnke et al., 2025), one of which is to provide written corrective feedback (WCF) on English as a foreign language (EFL) students' writing assignments (Fan et al., 2024; Guo & Wang, 2024; Lin & Crosthwaite, 2024).

Studies have shown that the instant and customized WCF offered by AI, such as ChatGPT, can facilitate EFL students' engagement and enhance improvements in their writing skills (Teng, 2024b). However, research from the EFL teachers' perspective is limited. Despite these promising benefits, it is essential to investigate how EFL teachers perceive the use of AI in delivering WCF, since teachers responsible for designing, implementing, and developing curricula and managing classroom teaching activities play a key role in technology integration (Kohnke et al., 2025). Teachers' attitudes, beliefs, and pedagogical approaches significantly influence the integration and effectiveness of AI tools (S. Lee et al., 2025). Therefore, the current research project aims to explore how Chinese college EFL teachers perceive the use of AI to provide WCF for students.

2. Literature Review

2.1 EFL Teachers' WCF Practices

Written corrective feedback is widely considered a significant pedagogical approach in L2 writing (Hyland & Hyland, 2006; Lin & Crosthwaite, 2024). On one hand, WFC give teachers information about students' strengths and weaknesses in writing that teachers can adjust and

provide tailored instructions to students. On the other hand, when receiving WCF from teachers, students can have multiple drafts of writing and improve their writing competencies.

WCF can be categorized into three main aspects: WCF strategy, WCF focus, and WCF scope (Liu, 2024). Research has explored the effectiveness of each type of WCF regarding directness, focus, and scope. First, WCF strategy can be generally classified into direct and indirect WCF (I. Lee, 2017). In direct WCF, teachers not only identify students' errors but also give correct answers directly. In contrast, indirect WCF involves marking errors without providing direct corrections. Additionally, Ellis (2009) proposed a third strategy, metacognitive explanation (ME), which provides metalinguistic clues, such as brief descriptions of grammatical rules, to guide students in understanding their mistakes. Second, WCF focus refers to the types of errors teachers choose to address in students' writing (Ferris, 2011). These can be categorized as local issues and global issues. When providing WCF, teachers can address local issues, such as grammatical and lexical errors, while global issues focus on content and organization, including the writer's arguments, overall structure, and coherence between sentences (Montgomery & Baker, 2007). Third, WCF scope concerns the extent of feedback provided on students' writing, and it can be divided into comprehensive or unfocused WCF and selective or focused WCF. Specifically, comprehensive or unfocused WCF means feedback that addresses a wide range of errors, while selective or focused WCF refers to feedback that targets limited types of errors (Cheng et al., 2021).

From the perspective of students, a number of studies have been conducted to explore the most effective WCF approach, yet no consensus has been reached. From the perspective of EFL teachers, providing WCF is often "often fraught with frustration and uncertainty" (Ferris, 2014, p.6). On one hand, giving feedback on students' writing assignments is not only time-consuming but also labour-intensive due to the large class size. On the other hand, research also reports negative emotions, such as disappointment and anger, of EFL teachers when students disengage with the feedback provided (Yu et al., 2021).

2.2 AI-assisted WCF

The rapid development of technology, such as automated writing evaluation (AWE), can help address the challenges faced by EFL teachers, helping reduce teachers' workload in providing WCF helping (Ding & Zou, 2024). However, AWE systems, like Grammarly and Pigai, which rely on natural language processing, could only identify spelling and grammar errors and suggest improvements. More recently, the emergence of GenAI, such as GPT-4 by OpenAI in late 2022 (Teng, 2024a), a highly sophisticated large language model, which provides immediate, comprehensive and consistent feedback on writing, has been transforming how WCF is provided and received (Escalante et al., 2023; Guo & Wang, 2024).

From the perspective of students, an increasing number of empirical studies have demonstrated that AI tools have a positive influence on providing WCF. Students have reported the benefits of using AI for real-time, personalized feedback (Chan & Hu, 2023). Additionally, Teng (2024b) reports that when students effectively use ChatGPT, they must critically evaluate AI-assisted WCF rather than accept it passively. As a result, there is a positive correlation between the use of ChatGPT and students' metacognition in L2 writing.

AI is so powerful that there is an ongoing debate about whether it can replace teachers in providing WCF. Consequently, research has compared the efficacy of AI-generated and teacher-provided WCF (Li, 2024). For example, Lin and Crosthwaite (2024) report that WCF by teachers is generally consistent, addressing both direct and indirect WCF as well as local and global issues. By contrast, GPT-generated WCF tend to employ reformulation and metalinguistic WCF, placing excessive emphasis on local issues. However, the use of AI in providing WCF is not without limitations. While GPT can generate a large amount of WCF in a short time, it tends to over-correct text, changing surface expressions and sentence structures (Wu et al., 2023), overlooking language proficiency, individual voice, and identity that students presented in the writing. Moreover, it is reported that GPT can produce inconsistent responses to the same prompts.

Research has also explored students' perceptions of teacher-provided and AI-assisted WCF. Fan et al. (2024) found that first-year EFL undergraduate students in Hong Kong, China, viewed AI tools as effective in addressing lower-level mistakes, while teacher feedback not only helped identify errors but also enhanced reflective thinking. In this study, students valued the usability of the teacher feedback in assisting their writing, emphasizing the paramount importance of teachers in providing WCF within the context of widespread AI use (Fan et al., 2024).

In conclusion, the efficacy of AI tools in writing instructions does not necessarily mean that they can completely replace the role of EFL teachers in providing effective WCF (Fan et al., 2024; Steiss et al., 2024). For teachers, AI is useful to provide students with personalized WCF at scale (Guo & Wang, 2024; Lin & Crosthwaite, 2024). Therefore, it is believed that teachers should implement both AI- and human-generated WCF to enhance students' writing (Han & Li, 2024).

2.3 Research Gap

EFL teachers, who are essential stakeholders in providing WCF, deserve continued exploration (Han & Li, 2024). However, existing research has largely overlooked EFL teachers' perceptions of using AI for providing WCF, particularly within the Chinese educational context. Given the influence of Confucian culture, where teachers are traditionally seen as the authority of knowledge, understanding their perceptions of AI-assisted WCF is critical for facilitating effective AI integration in instruction.

On the other hand, while numerous studies have examined AI tools like ChatGPT for WCF, political restrictions in mainland China limit access to such platforms. This highlights the need for research on locally available AI alternatives (Lin & Crosthwaite, 2024), such as Deepseek, to evaluate their effectiveness in providing WCF.

To address these gaps, this study aims to explore Chinese college EFL teachers' perceptions of using Deepseek for delivering WCF, aiming to provide insights into the affordances and challenges of Deepseek-assisted WCF. Additionally, it will also examine how teachers implement Deepseek-assisted WCF in practice, shedding light on their decision-making processes, adaptations, and instructional strategies when integrating AI into feedback provision.

2.4 Research questions

1. How do Chinese EFL college teachers perceive the effectiveness and practicality of Deepseek-assisted WCF?
2. What factors influence their perceptions of using Deepseek for WCF?
3. In what ways do Chinese EFL college teachers integrate Deepseek into their WCF practices?

3. Research Method

3.1 Qualitative Multiple-case Study

This study will adopt a qualitative multiple-case study approach (Yin, 2014) to explore Chinese EFL college teachers' perceptions and practices of Deepseek-assisted WCF. A multiple-case study which provides insights "in very vivid, detailed, and highly contextualised ways from different perspectives" (Duff, 2020, p.144), allows for an in-depth understanding of how teachers engage with Deepseek in their WCF practices.

3.2 Participants and Sampling

Participants will be selected using purposive sampling (Cohen et al., 2007; Tisdell & Merriam, 2016) based on the following criteria:

1. They must be EFL teachers working at a Chinese college with experience using Deepseek for WCF.

2. They must be willing to share their perspectives on Deepseek-assisted WCF and provide relevant documents, such as WCF on students' writing assignments, for research purposes.

3.3 Data Collection

3.3.1 Semi-structure interview

In this study, semi-structured interviews will be conducted individually with the participants (Tisdell & Merriam, 2016). These interviews will explore teachers' views on the affordances and challenges of using Deepseek and their practices in integrating Deepseek into their WCF process. Interview questions will be designed based on the research questions and prepared in advance to guide discussions with the participants. Interviews will be conducted in either Chinese or English, depending on participants' language preference. All interviews will be audio-recorded and transcribed verbatim for subsequent analysis.

3.3.2 Documents

To gain direct insights into the nature of Deepseek-assisted WCF, student writing assignments, along with the corresponding WCF provided by teachers will also be collected. These documents will help illustrate the exact ways in which teachers utilize Deepseek in their feedback process.

3.3.3 Follow-up Interviews

Following the initial document collection, follow-up interviews (Cohen et al., 2007) will be conducted to further explore teachers' reflections on their actual use of Deepseek-assisted WCF. These interviews will focus on teachers' decision-making processes, such as challenges encountered. Teachers will be asked to refer to specific examples from the collected documents to provide deeper insights into their WCF practices.

3.4. Ethical Clearance

Before the data collection, university approval will be obtained. The whole research project will strictly abide by the research ethical guidelines of the British Educational Research Association (2024). For example, consent form will be collected from the participants. Besides, all participants will remain anonymous, and their data will be treated confidentially, used only for research purposes.

Additionally, participating teachers will inform their students that their writing assignments may be shared with researchers for analysis. Students who have concerns about this will have the option to withhold their assignments, ensuring their autonomy and consent are respected.

3.5 Data Analysis

After collecting data from interviews and student writing assignments, a thematic analysis will be conducted following the steps outlined by Braun and Clarke (2006), which include multiple readings of the data, coding, theme identification, revisions, and theme naming. Firstly, the researcher will read and reread the interview transcripts and collected documents to gain an in-depth understanding of the data. Secondly, initial codes will be generated from the original data by identifying key phrases and concepts related to teachers' perceptions, influencing factors, and actual practices of Deepseek-assisted WCF. Thirdly, these codes will be grouped into potential themes, such as perceived benefits and challenges of Deepseek-assisted WCF, teachers' decision-making processes in providing Deepseek-assisted WCF and students' engagement and responses to Deepseek-assisted WCF. Fourthly, the identified themes will be reviewed and refined through constant comparison between data extracts and themes. Finally, final themes will be defined and named to represent the essence of the data. The results will be presented with illustrative quotes from the interviews and examples from the collected WCF documents to support interpretations. The qualitative data analysis will be performed with the help of NVivo14.

4. The timetable for the proposed project

Phrase	Time	Tasks
Preparation	July-October 2025	Focus on refining the research design, obtaining ethical approval, and recruiting participants.
Data Collection	November 2025-February 2026	Conduct interviews and gather student writing samples with Deepseek-assisted feedback.
Data Analysis	February-June 2026	Transcribe, code, and perform thematic analysis on qualitative data.
Writing and Revision	May-September 2026	Draft findings, discuss implications, and finalize the writing.

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