



The Role of ChatGPT-based Corrective Feedback in Language Teaching: A Case Study of Spanish Teachers' Beliefs

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Abstract. This study is a case study on university Spanish language teachers' beliefs regarding the role of ChatGPT in the writing process. The research primarily focused on teachers' perspectives on the accuracy, relevance, potential, and limitations of corrective feedback provided by ChatGPT. The findings highlighted university Spanish teachers' positive evaluations of the feedback given by ChatGPT, while also expressing concerns about its future use. Finally, the author discusses the study's limitations and offers recommendations for future research on university Spanish teachers' beliefs about the use of ChatGPT.

Keywords: ChatGPT; Corrective Feedback; Language teaching; teacher's beliefs

1 Introduction

Throughout history, all previous research conducted in the field of foreign language acquisition has contributed to the development and improvement of the second language (L2) teaching-learning process [1]. Writing, long considered one of the essential skills in foreign language learning [2], has received extensive attention in the fields of foreign language teaching [3-4].

In recent years, with the continuous development of AI, the applications of technology in the field of education have also expanded significantly [5-7]. The release of ChatGPT in 2022 has introduced many new topics to educational research.

Many studies have focused on ChatGPT as a tool in foreign language teaching, comparing the effectiveness of feedback provided by ChatGPT with that provided by teachers [8]. Other studies have explored English as foreign language (ESL) teachers' beliefs regarding ChatGPT as a teaching tool [9]. However, despite the growing interest in this new technological tool, research on the beliefs of Chinese university Spanish teachers regarding the use of ChatGPT as a tool for writing feedback is relatively limited. Therefore, this study will use a case study approach to investigate the beliefs of Chinese university Spanish teachers, serving as an initial attempt and reference for future research in this area.

2 Literature review

2.1 ChatGPT-based corrective feedback for L2 writing

Corrective feedback (CF) generally refers to feedback that learners receive from teachers or others to understand their performance in learning or other tasks and CF is a vital pedagogical tool in language learning [10-11]. In the context of language teaching, it refers to providing feedback aimed at correcting errors. Additionally, Nassaji and Kartchava state that "it refers to any signal from the teacher indicating that a student's expression may be incorrect in some way" [11]. In the context of writing, for example, CF may involve pointing out grammatical, spelling, or syntactic errors, as well as suggesting ways to improve clarity, coherence, and fluency. In studies on the typology of corrective feedback, Ellis summarized various types, such as direct feedback, indirect feedback, and metalinguistic feedback [12]. Additionally, electronic feedback (EF), which refers to CF automatically generated by software programs, is also included depending on the tools used [13-14].

With the rapid development of AI tools in recent years, recent studies have begun to focus on ChatGPT's potential in language education in some cases, the using of Chatgpt offer teachers feedback to improve classroom instruction [15] and the use of this tool for EF in L2 writing has also gained extensive attention. Rahman et al. investigated an AI-assisted tool's role in correcting grammatical errors and improving EFL learners' writing skills, showing significant improvement [16]. In the comparative study of Song and Song Chinese EFL with students' writing skills, the finding shows that Chatgpt group has a significant improvement in students writing skills, though some of them may reliance on AI [17]. Meanwhile, some researchers have pointed out that AI can only be effective in L2 writing if it undergoes specific, targeted training.[18]

2.2 Teachers' beliefs regarding the use of ChatGPT in language teaching

Research on teacher beliefs began in the 1970s. During this period, the hypothesis was proposed that "teachers' actions are influenced by what they think," and attention began to focus on teachers' judgments, decisions, and planning. Specifically, teachers' theories and beliefs were considered a form of knowledge representation that impacts their actual practices and decisions. [19-23]

In language teaching, teachers' beliefs can shape their perceptions of effective instructional approaches[24-25] and influence their teaching practices[26], which, in turn, may impact students' learning outcomes, reflecting the overall effectiveness of instruction[27-28] and following Borg [29-30], this paper defines teachers' beliefs as encompassing their knowledge, convictions, and thoughts, along with attitudes that reflect preferences and judgments about what should be prioritized and implemented in teaching.

3 Research Background and Research Questions

The present study was conducted in China, where the study of Spanish is continuously growing. According to Chen [31], the history of the development of Spanish as foreign language (SFL) teaching in China can be divided into two stages: the first beginning in the 1960s and the second at the start of the 21st century, in other words, Spanish language teaching in China has a long-standing history. Especially with China's economic reform and the development of globalization, the content of foreign language textbooks has undergone a significant change, and teaching objectives have begun to expand toward intercultural communication [32]. Since 2018, Spanish has been included in the curriculum of public high schools in China and has become one of the six foreign languages assessed in the national college entrance examination [33]. Therefore, research on the teaching of Spanish is highly worthy of attention.

Building on the literature discussed above and to address the gap in research on Spanish language education, this study aims to explore SFL university teachers' beliefs about using ChatGPT into language writing education. The research questions (RQs) are as follows:

RQ1: How do university Spanish teacher perceive the accuracy and relevance of ChatGPT's corrective feedback in student writing?

RQ2: What is university Spanish teacher's beliefs regarding the potential role and limitations regrading of ChatGPT-based feedback in the development of students' writing skills?

4 Methodology

This experiment primarily uses a qualitative analysis approach, combining two semi-structured interviews with corrective feedback provided by ChatGPT to gain a deeper understanding of Spanish teachers' beliefs about ChatGPT in the foreign language teaching process. For the collected interview data, Nvivo 20 was used as the primary tool in the experiment, employing thematic analysis [34] to derive the results.

4.1 Participants

In this study, our primary goal was to explore Chinese university Spanish teachers' beliefs regarding the use of ChatGPT in writing instruction. To this end, a university Spanish teacher was invited to participate in two semi-structured interviews, each lasting 30-40 minutes, to gain a detailed understanding of the teacher's beliefs about using ChatGPT in Spanish language instruction.

Additionally, with authorization from both the teacher and the students in the class, 17 student volunteers with similar Spanish proficiency levels were selected based on their regular learning performance and language assessment. These students provided their Spanish compositions written in class, which were used for an experiment in CF through ChatGPT.

4.2 Procedures and Instruments for Data Collection

The interview is a research instrument that allows for the exploration of participants' opinions that cannot be directly observed [35]. It holds a prominent place among applied data collection techniques, as it is one of the most widely used methods in both quantitative and qualitative research [36]. To understand this teacher's educational beliefs, two semi-structured interviews were conducted. The first interview was held before ChatGPT revised the students' written texts, aiming to understand the SFL teacher's overall perspective on ChatGPT and its feedback function, as well as their beliefs about using AI tools to support teaching. This interview also explored the teacher's usual focus areas in writing correction, such as grammar, syntax, or other aspects, which helps researchers train ChatGPT more accurately, thereby ensuring that the generated data is more precise and effective. The second interview took place after the teacher received the feedback texts, providing a deeper insight and analysis of the teacher's views on the accuracy, relevance, and educational effectiveness of ChatGPT's feedback.

The texts using ChatGPT to provide CF are also employed in this study. This aids in analyzing the teacher's specific assessment of ChatGPT's feedback, such as its ability to identify and correct errors in student writing and the effectiveness of this assistance for students' current proficiency level.

5 Data analysis

Qualitative approaches are diverse, complex, and nuanced [37]. Thematic analysis should be viewed as a fundamental method for qualitative analysis, providing a flexible and useful research tool that can potentially offer a rich, detailed, yet complex description of the data [34].

As previously mentioned, data analysis was conducted using NVivo 20 for coding. Based on the two research questions, the transcribed texts from the two interviews were coded and analyzed, resulting in three codes: the accuracy and the relevance of ChatGPT feedback, the potential of ChatGPT feedback, and the limitations of ChatGPT feedback. To facilitate the coding process and data analysis, nine subcodes were established: feedback accuracy, feedback relevance, specific feedback examples, self-learning ability, time efficiency, native-like expression, teaching assistance, student dependency, and technical limitations. All primary and secondary codes can be seen in Table 1.

Table 1. All Coding Classification

Primary codes	Secondary codes
The accuracy and the relevance of ChatGPT feedback	feedback accuracy
	feedback relevance
	specific feedback examples
The potential of ChatGPT feedback	self-learning ability
	time efficiency
	native-like expression

The limitations of ChatGPT feedback	teaching assistance
	student dependency
	technical limitations

6 **Results**

6.1 RQ1: How do university Spanish teacher perceive the accuracy and relevance of ChatGPT's corrective feedback in student writing?

After conducting thematic analysis of the interview data in this qualitative study, we found that the Spanish as a Second Language teacher considers the accuracy of ChatGPT in writing feedback to be very important. Through data analysis, we observed that the teacher frequently mentioned topics related to feedback relevance. The teacher noted:

For the class I'm currently teaching, accuracy is really important. Since they're at the foundational stage, they need to build a solid base to prepare for exams in the future.

At the same time, the teacher also provided positive feedback regarding the relevance of the corrective feedback provided by ChatGPT, noting that much of the feedback generally aligns with her usual teaching practices.

The explanations it provides and its adjustments to enhance the naturalness of expressions are highly effective, which is a part I really appreciate.

6.2 RQ2: What is university Spanish teacher's beliefs regarding the potential role and limitations regrading of ChatGPT-based feedback in the development of students' writing skills?

When discussing the potential and limitations of feedback based on ChatGPT, the teacher believes that the proper use of ChatGPT can help foreign language teachers "save time," as she mentioned:

There's a lot of paperwork and assignments to handle, and when time is tight, it's hard to maintain quality.

Therefore, when used appropriately, ChatGPT is considered to have great potential as a teaching aid.

However, the limitations in its use cannot be overlooked. For instance, *"there are no rules or guidelines on using ChatGPT—no clear direction on what should and shouldn't be done."* Moreover, if not used properly, it could lead to "students becoming overly reliant on it " which may negatively impact teaching effectiveness by having an adverse effect.

7 **Limits and Discussion**

This study designed two research questions aimed at examining, through a case study, SFL teachers' beliefs about ChatGPT in the writing feedback process, including its role,

function, and potential in future Spanish language instruction. However, due to the limitations in sample size, the study cannot produce broadly generalizable results and only represents findings specific to this case. It is hoped that future research with a larger sample size will yield more widely applicable insights.

In addition, multiple studies focusing on ChatGPT have considered students' beliefs and perspectives. Mun [38], for instance, found that among first-year Korean university EFL students ($n=43$), 95% viewed ChatGPT as having a positive impact on improving writing, with almost no students doubting its usefulness as an AI tool. Therefore, in future research on Spanish language teaching, students' perspectives could also be considered.

Admittedly, although ChatGPT holds great potential as a teaching aid and in improving students' writing skills—such as boosting student enthusiasm for writing, assisting in teaching assessments, and positively impacting writing performance [39–40]—this aligns with recent research findings. However, as the SFL teacher in this study expressed concerns, if it is not monitored and standardized through appropriate guidelines and reasonable training, it may not significantly benefit foreign language teaching.

8 Conclusion

This study primarily focused on university Spanish teachers' beliefs regarding the helpfulness of feedback provided by ChatGPT for writing, examining aspects such as its perceived accuracy, relevance, potential for future use, and limitations. The findings align with recent research exploring the effectiveness and possible limitations of ChatGPT usage. As a study on Spanish teachers' beliefs, this research aims to contribute to the field and hopes to produce more generalizable results in future studies by expanding the sample size.

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