The Impact of Generative AI Feedback on Feedback Literacy among Low-Proficiency IELTS Writing Students

Dong Chiyuan

Xian International Studies University, Xian Shaanxi ， 710100；

Abstract： Feedback literacy needs promoted to help students improve their writing, but researches on how AI-assisted feedback affects students; especially on low-proficiency IELTS candidates with issues in language and feedback processing are still insufficient. Most of the existing researches have focused on teacher/peer feedback and have not studied the effect of Generative AI on the feedback literacy of low-level L2 writers. This paper examines the effect of GAI feedback on the feedback literacy of Chinese low-proficiency IELTS writers. Over the past five weeks, five students who scored less than 5.0 in the IELTS writing section have taken part in three writing activities and employed Deepseek-R1 AI for correction. Feedback literacy was measured by Zhan's Student Feedback Literacy Scale. GAI feedback helped the participants gain knowledge about feedback. There were significant increases in Enacting and Commitment while other dimensions showed no significant change. GAI can provide personalised help for writers with low proficiency in important feedback literacy.

Keywords: generative AI feedback; feedback literacy; low-proficiency IELTS candidates; L2 writing

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1 Introduction

Feedback can help the student learn better and achieve better grades (Hattie & Timperley, 2007, p. 81). It is also a good teaching tool for teaching writing; that is, it can help students discover writing deficiencies and offer suggestions for improvement that assist in improving writing skills. The usual ways are teacher feedback, peer review and automatic assessment. At present, most research on feedback literacy has concentrated on teacher-student communication and peer feedback, and little attention has been paid to AI-assisted feedback. Now that generative artificial intelligence can provide immediate feedback, some schools have begun to organise short and loose activities to create a "write-feedback-revise" loop for young children that can help them learn better. This paper studies the effect of human-AI cooperative feedback on students' ability to feel, understand and use feedback.

Among many students, we have found that low-proficiency International English Language Testing System (IELTS) writing students often face the dual problem of weak linguistic foundation and insufficient feedback processing ability. By studying how GAi feedback can improve students' response efficiency by simplifying language and organising the structure of logic, we will add to the theoretical system of technology-aided intervention in L2 writing instruction. Based on questionnaires and interviews, this paper will study the effect of Generative AI (GAI) feedback on the writing feedback literacy of low-proficiency IELTS candidates. By finding good ways to enhance the feedback literacy of students with poor writing, this paper aims to provide empirical support for teachers in using feedback literacy-oriented L2 writing instruction.

2 Literature Review

2.1 Conceptions and Operation of Feedback Literacy

Sutton (2012) first put forward the idea that feedback literacy consists of three dimensions: epistemology, ontology and practice. Epistemologically, learners should be aware of the purposes and significance of feedback; ontologically, they need to develop a flexible sense of self as students; and practically, they must have the ability to implement feedback. Carless and Boud (2018) built upon the above to add the concept of teacher feedback literacy and created feedback processes for students to learn from them. The three links in the model are the design factor, the relation factor and the application factor. Boggs and Manchón (2023) later placed the concept of feedback literacy in the context of L2 writing and stressed the importance of students' prior educational and language-learning experiences. They believed that the L1 writing background and sociocultural views of learners would influence their ability to accept L2 feedback, and thus, it could be seen that individual, contextual and engagement factors are involved in the development of feedback literacy. These works show that feedback literacy is an active ability influenced by society and includes both thought and emotion.

Researchers have built validated tools to measure and use feedback literacy. Zhan (2021) developed a six-dimensional Student Feedback Literacy Scale (SFLS) and put forward that the six parts are elicitation, processing, enactment, appreciation, readiness, and commitment. Based on 555 university students, confirmatory factor analysis was conducted to verify that the scale has stable structural validity across genders and majors. Zhan's research has also revealed that these factors are related to students' motivation for independent and voluntary study, indicating that feedback literacy is in connection with broader motivation mechanism.

2.2 Feedback literacy of low-proficiency students

Zhang Shanshan and Xu Jinfen (2019) have explored the effect of online automatic feedback on the writing scores, writing process and the effectiveness of feedback perception for both high-achieving and low-achieving students. Pitt (2019) put forward four key strategies: initiative, praise, feedback literacy and a growth mindset; he hoped that these would help students with lower academic performance and those who have lost studying interests and proposed that low-level students benefit from good relationships as well as a rich and low-risk

feedback environment. In summary, the academic community has gradually been recognized that differences in students at the individual level are one of the reasons for the failure of writing feedback. However, the reasons for students' different writing feedback literacy may be due to various factors, and not many studies have explored these reasons in detail.

2.3 Generative AI Feedback

With the emergence of Generative Artificial Intelligence (GenAI), many changes have been made in foreign language education around the world. Researchers have started to focus on how to use Gen AI (Wen Qiufang, Liang Maocheng, 2024) effectively to promote foreign language education. GenAI is a type of machine learning model that has been trained on a large amount of data and can generate various forms of text and code. It can provide immediate feedback on the language, content and structure of the text (Wei Shuang, Li Luyao, 2023), therefore students can practice and receive feedback at any time. As an interactive leaning tool, students can obtain more detailed feedback by constantly raise questions. (Wen Qiufang, Liang Maocheng, 2024). Besides, the feedback is more personalised. It can also help to expand one's vocabulary and learn more sentence structures. Given the strengths of Gen AI, it can be used to help students improve their writing abilities in foreign languages. However, there are potential problems with using Gen AI to generate writing feedback. The Feedback functionality of GenAI is not always reliable. When users ask the same question multiple times, the content and quality of the text generated by Gen AI are different each time, and even incorrect information may be produced (Guo Qian, 2023). Different students will be given the same modification suggestions and thus be uniform. Additionally, there is the problem of academic dishonesty in the application of generative artificial intelligence, such as plagiarism (Su et al., 2023), which may occur when students have Gen AI generate essays for them without receiving any writing guidance. Therefore, research on the writing feedback literacy of foreign language learners empowered by Gen AI can add to the body of knowledge about Gen AI in foreign language education and promote investment in the learning of foreign languages by these learners.

2.4 The Effect of Generative Artificial Intelligence on Feedback Literacy

In recent years, GAI has gained its popularity in all fields. Chan et al. and (2025) randomly divided the subjects into two groups; one group was shown the feedback from artificial intelligence while the control group received traditional feedback. The study shows that students who received AI-generated feedback demonstrated significant improvements in writing quality, motivation and engagement during the revision process.Another study on GPT Feedback shows that students who receive feedback from AI tend to have better self-discipline and develop abilities such as critical thinking, reflection and creativity. Zhan et al. (2025) have investigated how much the collage students will apply the feedback provided by GPT in their IELTS writing homework. The types of participation in feedback are cognition, metacognition, affect and behaviour. Based on the results, more people employed cognitive strategies than metacognitive strategies, were not very emotionally sensitive, and showed various degrees of trust in the feedback from GPT.

Although there has been a growing number of studies on the effect of GAI on students' writing feedback literacy, little attention has been paid to IELTS writing by GAI, particularly for low-level IELTS writing students in China. Given the large number of IELTS test-takers in China, this paper will explore how generative artificial intelligence (GAI) affects the feedback literacy of low-level IELTS writing students and provide some assistance and direction for this group.

Research questions

This paper will study how generative AI feedback can enhance the writing feedback literacy of underperformers in IELTS test's writing part. The research questions addressed are:

RQ1: Will generative AI feedback have a positive impact on the feedback literacy of low-proficiency IELTS writing students?

RQ2: If there is a positive impact, to what extent does generative AI feedback enhance the feedback literacy of low-proficiency IELTS writing students?

3 Methodology

3.1 Participants

Five second-year undergraduate students (3 male, 2 female) from this school were preparing for the IELTS exam. All the participants had taken the IELTS in March 2025 and scored less than 5.0 in writing (Band 5), so they were classified as low-proficiency L2 writers. Although the students had already taken some English writing courses and received teacher feedback before this study, they had not used any artificial intelligence-based feedback tools. None of them had used the online AI writing correction platform or been given feedback from an AI.

3.2 Procedure

Over the course of five weeks, the three writing tasks set by the researcher were completed by the participants. All the tasks required students to write essays based on the provided IELTS-style topics, submit a first draft, revise it with the help of the Deepseek-R1 AI model (which is free to use and convenient for users), and then submit the final draft along with screenshots of their interaction with the AI system. In order to use the AI tool for this study properly, some training will be arranged in advance. The two parts of the training are as follows: (1) How to input prompts and learn from the AI's feedback on the generation of responses (e.g. revise questions to be clearer and more relevant); (2) Analyse a model essay and its corresponding AI feedback to learn how to edit essays efficiently.

3.3 Data Collection

To measure participants' feedback literacy levels, a validated Student Feedback Literacy Scale (SFLS) developed by Zhan (2021) was distributed to them twice: once before the intervention (pre-test) and once at the end of the last week (post-test). A random distribution method

for the Chinese online survey tool Wenjuanxing will be used; the scale includes six dimensions eliciting feedback, processing feedback, enacting feedback, appreciating feedback, readiness to engage, and commitment to improvement (4 items per dimension). To match the writing circumstances, some small changes have been made to the wording of the items. For example, the original item "Others' feedback helps me know my strengths and weaknesses in learning" was changed to "Others' feedback helps me know my strengths and weaknesses in English writing", but it still had good reliability and validity; at the same time, its structural stability had been verified in advance by confirmatory factor analysis (Zhan, 2021).

3.4 Data Analysis

Based on the above analysis, there have been some changes in the dimension of feedback literacy after GAI feedback. Specifically, the dimensions of Enactment and Commitment were both positively associated with time after the questionnaire in the post-test stage ($p < .05$). The average score for "Enacting" rose from 2.76 to 4.44, and the students have begun to apply the suggestions for improvement in their essays. Similarly, the mean score for Commitment increased from 3.12 to 3.88; thus, it can be concluded that students' sense of responsibility for continuous improvement in their writing has strengthened. In contrast, the dimensions of Eliciting, Processing, and Appreciating did not change significantly, and their p-values were all greater than 0.05. This shows that although the students' response to feedback has changed, their initial inclination to seek feedback, analyse it and know how to make use of it is still the same. The level of Readiness was also higher, but it did not reach the 0.05 significance level.

4 Result and Discussion

Feedback Literacy Level of Students at the Start and End of the Study

	Pre-test	Post-test	t	Sig.
	Mean(SD)	Mean(SD)		
Elicting	3.04(1.03)	3.05(0.28)	-0.276	0.796
Processing	3.45(0.48)	3.16(0.84)	0.585	0.59
Enacting*	2.76(1.3）	4.44（0.58）	-2.942	.042*
Appreciating	3.4(0.77)	3.64(0.43)	-1.349	0.249
Readiness	2.98(0.63)	3.66(0.23)	-2.68	0.055
Commitment*	3.12(0.55)	3.88(0.27)	-5.295	.006*
Total*	18.75(2.00)	21.95(0.59)	-3.261	.031*

The six components of SFLS are: Eliciting is for a student to actively seek feedback. Processing is the ability of students to understand and analyse feedback. Enacting is to be able to make changes according to the feedback. Appreciation is a good disposition in the students towards feedback. Readiness is the will of students to participate in the feedback process. Commitment refers to students' will to keep improving.

The significant improvement in Enacting dimension was the result of adjusting and guiding according to GAi's feedback. GAI can give students quick, low-pressure feedback on their writing many times, and they will be able to make necessary changes to their essays more easily. The increase in Commitment indicates that the positive experience of GAI feedback made students want to participate in the writing process more actively and improve their work. There have been no considerable changes in the other areas, such as elicitation and processing; it may be that the intervention was too short-lived. It will take a long time and repeat practice for students to learn them. In addition, different people's previous experiences and feelings about receiving comments may also be reasons why some students did not respond to the GAI.

5 Conclusion

Through a five-week experiment, this paper has explored how to enhance the feedback literacy of low-grade IELTS writers with the aid of generative artificial intelligence (GAI) feedback. As a result, GAi feedback has helped the students improve their feedback literacy in some places and offered good study assistance for low-level writers. The average of the total SFLS scores has increased from 60 to 75 and all indicators have improved. Students showed some improvement in Eliciting, Processing, Enacting, Appreciating and Readiness. GAI feedback helped the students know what to revise in their writing.

There was no significant change in Commitment, so this factor may be more closely related to people's inner drive and long-term habits; it will be difficult to alter by GAI intervention in the short run. Teachers need to have reasons and a long-term plan for their interventions.

Individual differences appeared: Students 1 and 3 improved the most; Students 2 and 4 showed less. Starting level, study habits and acceptance of GAI will affect the results. Teachers need to consider the various circumstances of the students.

GAI can Offer personalised study assistance For IELTS Writing. Teachers are suggested to integrate tools in their daily teaching and pay attention to the different dimensions and instruct accordingly. In addition to GAI, peers and teachers will also provide feedback. GAI feedback can help to improve students' feedback literacy, and when used in a personalised way, it can provide good support for low-performing writers.

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