

GenAI in Learning, Teaching and Assessment

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Instructors

Dr Yuan Yao and Professor Xinhua Zhu

Department

Language Science and Technology (LST)

Subject Area

GenAI-assisted Language Learning

Why did the instructor use GenAI for learning and teaching?

GenAI is increasingly being used in second language writing classrooms to support feedback, idea development and revision. Xinhua's team was interested in GenAI because it could offer timely, individualised and language-focused support for students' writing. In L2 writing classrooms, students often need frequent feedback on grammar, vocabulary, coherence, argument development and style. However, instructors may not always be able to provide immediate, detailed feedback to every student throughout the drafting process.

GenAI can help address this challenge by acting as an accessible writing-support tool. It can provide students with instant feedback, suggest revisions, clarify language use and support idea development. This makes it particularly useful in large classes or in contexts where students need additional writing practice outside class time, as observed by Xinhua's team.

How was GenAI used in this scenario?

In this scenario, Xinhua's team used GenAI to support students during two connected phases of L2 writing: the interaction phase and the revision phase. Each phase included three dimensions: behavioural, cognitive and emotional engagement. To measure these dimensions, the researchers developed a 23-item scale, which was validated with 890 undergraduate students from nine universities in China.

During the interaction phase, students communicated with GenAI about their writing. They could ask questions about vocabulary, grammar, coherence, transitions, organisation and content development.

During the revision phase, students used GenAI feedback to improve their drafts. They incorporated feedback on language issues such as grammar, vocabulary and sentence structure, but they were also encouraged to consider higher-order aspects such as coherence, organisation, argumentation and rhetorical purpose.

Importantly, students were expected to evaluate GenAI feedback before using it. They needed to decide whether a suggestion was accurate, appropriate and consistent with their writing goals. This involved selective uptake: accepting useful feedback, modifying suggestions where necessary and rejecting advice that did not fit the context.

The study conceptualised student engagement with GenAI feedback across six sub-dimensions:

- Behavioural engagement in interaction: how often and how broadly students prompted GenAI.
- Cognitive engagement in interaction: how strategically students asked questions, refined prompts and monitored GenAI responses.
- Emotional engagement in interaction: how students felt when communicating with GenAI, including feelings of confidence, comfort or reduced social pressure.
- Behavioural engagement in revision: the extent and variety of textual changes students made based on GenAI feedback.
- Cognitive engagement in revision: how critically students evaluated, verified and adapted GenAI suggestions.
- Emotional engagement in revision: students' satisfaction with the usefulness and clarity of GenAI feedback.

What was the impact on student learning?

The scale showed strong reliability and validity, suggesting that it can be used by educators and researchers to diagnose how students engage with GenAI in writing tasks.

The use of GenAI had several positive implications for student learning, particularly when students engaged with the tool actively and critically.

First, GenAI supported more frequent and individualised feedback opportunities. Students could receive immediate responses while drafting and revising, allowing them to notice language gaps and make timely improvements. This helped students address both surface-level language issues and broader writing concerns.

Second, the study found that interaction with GenAI and revision based on GenAI feedback were strongly related. Students who engaged more actively in dialogue with GenAI also tended to invest more effort in revising their texts. This suggests that high-quality interaction can lead to deeper revision. In other words, the way students prompt, question and evaluate GenAI responses can influence the quality of their subsequent writing improvements.

Third, GenAI appeared to support students emotionally. Some students felt more relaxed when interacting with AI because there was less social pressure than when asking a teacher or peer for help. This lower-pressure environment may encourage students to ask more questions, experiment with language and take risks during drafting and revision.

Fourth, the study reinforces the importance of critical AI literacy. Students who simply accepted GenAI suggestions were less likely to experience deep learning. By contrast, students who questioned feedback, compared it with their own writing intentions and verified its appropriateness were more likely to develop stronger writing awareness. This kind of engagement supports not only text improvement but also metacognitive growth.

Overall, the impact on student learning was strongest when GenAI use was framed as a reflective writing process. The goal was not merely to produce a cleaner final draft, but to help students become more strategic, confident and critical L2 writers.

What were the challenges encountered during the implementation and what solutions were used?

Several challenges emerged in the implementation of this GenAI-supported L2 writing approach.

One key challenge was the risk of passive reliance. Some students may accept GenAI suggestions without evaluating them. This can limit critical thinking and reduce opportunities for language learning. To address this, instructors should explicitly teach students how to verify, adapt and selectively use GenAI feedback. Students can be asked to explain why they accepted or rejected particular AI suggestions, thereby encouraging reflective decision-making.

A second challenge was students' tendency to focus mainly on surface-level revisions. Research shows that students often accept GenAI feedback on grammar and vocabulary more readily than feedback on content, organisation or argumentation. To address this, teachers can design prompts and tasks that direct students' attention to higher-order writing concerns. For example, students can be asked to prompt GenAI for feedback on thesis clarity, paragraph unity, evidence use or logical flow.

A third challenge was uneven prompting quality. Some students used short or imitative prompts and did not engage in sustained dialogue with GenAI. This often resulted in limited or superficial feedback. One solution is to provide structured training in human-AI interaction. Teachers can model effective prompts, demonstrate follow-up questioning and provide prompt templates. For example, students can be encouraged to ask GenAI to justify a suggestion, provide alternatives or explain the difference between two possible revisions.

A fourth challenge was that GenAI feedback may be inaccurate, vague or repetitive. This can frustrate students or lead them to adopt unsuitable revisions. To manage this, students should be encouraged to cross-check GenAI feedback against course rubrics, teacher feedback, dictionaries, grammar resources or their own rhetorical goals. Instructors can also remind students that GenAI feedback is advisory rather than authoritative.

A fifth challenge was that final drafts alone do not show how students engaged with GenAI. A polished final text may hide passive acceptance, while a less polished text may still reflect meaningful learning. To address this, instructors can adopt a dual-phase assessment approach. Students can submit their prompt history, selected GenAI feedback, revised drafts and a short reflection explaining how they used the feedback. This makes the learning process visible and assessable.

Finally, students from different disciplines or backgrounds may approach GenAI differently. Some may see it as a helpful technical tool, while others may worry that it threatens originality or critical thinking. Teachers should therefore clarify expectations, discuss ethical use and adapt GenAI writing tasks to students' disciplinary contexts.