

Harnessing GenAI to support vocabulary development in international students

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(Received 23 September, 2025. Published online 28 February, 2026.)

This practice-based project explored how international students at a pathway college could interact with Generative AI (GenAI) to develop academic vocabulary in a personalised and engaging way. The initiative aimed to develop vocabulary while promoting critical engagement with GenAI, preparing the students to use it ethically and effectively in both academic and professional contexts. Students used structured prompts which were designed to encourage deeper interaction beyond dictionary-style use and maintained individual vocabulary records to enable further development. Observations suggest that guided interaction with GenAI can support both language development and digital literacy.

Key Words: academic vocabulary, international students, prompt design, ethical AI use.

1. Background

International students often identify vocabulary development as a key challenge in their academic studies (Gutierrez Marengo, 2025). While resources such as dictionaries and translation tools offer basic support, they rarely allow students to clarify or extend meaning in a personalised or interactive way. These limitations typically place pressure on teachers to provide individualised vocabulary support, which can be difficult to manage in diverse classrooms such as ours where students' needs vary depending on their future fields of study. Our students articulate into a range of degree programs and need subject-specific vocabulary as well as broader academic language. With the emergence of Generative AI (GenAI), there is an opportunity to offer students tailored, responsive vocabulary support while also fostering critical engagement with AI (Mohebbi, 2024; Sripada et al., 2025).

We observed that students had limited opportunities to interact meaningfully with vocabulary resources, and often relied on translation tools or teacher input. We are also aware that the rapid evolution of GenAI is challenging for both teachers and students (Khabbzbashi et al., 2024; Liu et al., 2023; Son et al., 2023), and as a result we wanted to investigate an approach that is simple and manageable. Our project aimed to provide teachers with a framework to use when teaching vocabulary and to allow students to experience GenAI as a means of developing their vocabulary in a way they might not have done previously. We also wanted to raise awareness of the need to use GenAI ethically, and therefore used the RAFT framework developed at Sydney University (Liu 2024), and the five principles for the effective ethical use of generative AI from the LX Team at the University of Technology Sydney (2024) as guiding principles. Through our project, we hoped to support vocabulary development and enable students to critically evaluate AI as a tool for vocabulary learning, thus promoting the ethical, effective use of GenAI in their university

studies and future workplaces. This paper outlines two procedures for supporting students with using GenAI to develop their vocabulary.

2. Vocabulary development (1): focus on meaning in reading and listening lessons

To introduce an approach focusing on meaning in reading and listening lessons, we recommend modelling the interactions with a GenAI tool in a whole-class activity. Start by eliciting what question the students would ask a teacher if they didn't understand a word, and then enter the question into a chat with the GenAI tool being used. Follow up by asking the students if they understand the response, and then elicit what their next question would be, and so on, to demonstrate how they can interact to gain a better understanding of the word. As GenAI continues to evolve, it is likely that it might start asking questions of its own about what the students would like next.

When the students are familiar with these interactions, the following lesson plan can be used in any situations with a vocabulary focus. We used it mainly in listening and reading lessons as a replacement for a more traditional, teacher-centred preteach stage of the lesson, aiming to familiarise students with key vocabulary from the text prior to reading or listening.

Lesson plan

2.1.1. Aims

- For students to develop their understanding of key vocabulary
- To build students' confidence in interacting with GenAI

2.1.2. Materials

- List of vocabulary (either supplied in the course materials or selected by the teacher)
- Devices with an internet connection (so that students can access the GenAI platform)
- Bank of prompts to use in the lesson (see Appendix A)

2.1.3. Preparation

Depending on the teaching context and the classroom technology available, it might be useful to prepare a slide deck or handout with the target vocabulary, prompts and instructions to support students.

2.1.4. Procedure

See Appendix A for a list of prompts to use in stages 3, 4 and 6.

1. Ask students to close their devices and work with a partner. Show (or give) them the list of words and ask the students to identify which words they are familiar with, define them, and also identify which words are new.
2. Students open their devices and their GenAI tool of choice.
3. Using the given prompts, students ask GenAI for a definition or an example sentence of one of the words they identified in stage 1 as new or less familiar.
4. When they have received the definition, students ask more questions until they are confident they have understood the meaning of the word.
5. Students repeat stages 3 and 4 with other new words from the list.
6. Using a prompt, students ask for a table containing examples of different word forms of the new words.
7. Students copy and paste the table into their vocabulary record for later review and use.
8. Students explain the meaning of the new words to their partner (devices closed).

2.1.5. Follow-on activities

Depending on the needs of the class and the materials being used, comprehension activities such as matching or cloze (these are often provided in course materials to check understanding of key vocabulary prior to reading or listening) would be a natural follow-on. It may also be necessary to clarify the pronunciation of the words, or to plan concept checking questions to further consolidate meaning. We recommend planning time in an upcoming lesson to review the vocabulary.

3. Vocabulary development (2): extension in writing lessons

Many of our students show an understanding of the need to use academic vocabulary in their writing but seem to lack knowledge of possible synonyms for higher-level words and phrases. We feel that the approach outlined below works best as an awareness-raising activity, with potential for development in several ways (depending on the needs and level of the students). This approach utilises groupwork and collaboration throughout in order to integrate AI into the learning environment rather than using it as a replacement.

Lesson plan

3.1.1. Aims

- To increase students' vocabulary through synonyms
- To raise students' awareness of the level of different lexical items
- To use appropriate vocabulary in writing a body paragraph

3.1.2. Materials

- A means of brainstorming (pens and paper, whiteboards and markers, digital whiteboards or shared documents)
- Link to a text analyser
- Devices with an internet connection (so that students can access the text analyser and GenAI platform)

3.1.3. Preparation

- An essay question appropriate for the class level and course content

3.1.4. Procedure

1. Students work in groups to analyse an essay question and identify the topic of each body paragraph.
2. In their groups, they brainstorm key words and phrases to use in each body paragraph.
3. They then work together to brainstorm synonyms for these key words and phrases.
4. Students use a text analyser (we used Vocab Kitchen) to identify the CEFR level of the words and phrases.
5. At this point, it might be necessary to clarify that a well-written paragraph is likely to have a combination of high-level and low-level words, and that it may not actually be appropriate to use too many high-level words.
6. Students create a list of words they would like to use in the essay.
7. They then ask GenAI to provide a list of higher-level synonyms for these words and phrases, and to clarify meaning with definitions or examples to the extent that they feel necessary.
8. Finally, students work individually to write the body paragraphs (or whole essay) using the synonyms provided by GenAI and/or their original vocabulary.

3.1.5. Follow-on activities

One possible follow-on activity is to focus in more depth on the vocabulary, with activities to practise using the words in context, to peer-teach, to create a word-family table, etc. Another is to focus on the writing process, with peer-correction, further use of the text analyser to identify the CEFR level of the words used in preparation for creating a second draft, teacher feedback, co-creation of another body paragraph, or work related to paragraph structure, cohesion, and so on. We recommend planning time in an upcoming lesson or workshop to review the vocabulary.

4. Findings

We measured students' confidence in interacting with GenAI through surveys at the beginning and end of their course and through classroom observations and questioning. We observed that students were able to interact with GenAI quite successfully, and were quickly able to adapt the prompts and write their own. These observations were supported by the survey responses, in which the students also reported increased levels of confidence in interacting with GenAI tools. They also showed an ability to evaluate the outputs of GenAI tools, with some students commenting that the responses were too difficult or that some of the words suggested by the GenAI tool were unsuitable for the context. In general, students responded very positively to their experiences and indicated that this was a helpful way for them to develop their vocabulary.

5. Conclusion

We are aware that there are endless possibilities for using GenAI in the classroom and beyond, and that these are constantly evolving as both educators and students build their skills and confidence with using such tools. We also recognise that many teachers are time-poor and that the emergence of GenAI has created additional workload. We hope that, by outlining these two learning experiences, we have provided an achievable means of integrating GenAI into vocabulary teaching.

Acknowledgements

The authors would like to acknowledge English Australia and Cambridge English, via the English Australia 2024 Action Research Program, for their support of our investigations into the use of GenAI in teaching vocabulary.

Declarations

Use of Generative AI: Microsoft Copilot was used for substantive editing of the first draft. The authors have reviewed all content and wordings created by the generative AI tool used, edited this content as needed, and take full responsibility for the content of the publication.

Appendix A. Prompts

Prompts for use in Stage 3 (asking for definitions or examples)

- Define XXX. Use simple vocabulary.
- Give me an example sentence using the word XXX

Prompts for use in Stage 4 (asking for more information about a word)

- I don't understand your explanation of XXX. Use simpler vocabulary (CEFR A2 or B1 level).
- I don't understand your explanation of XXX. Assume I am 12 / 15 years old. Explain again.
- So XXX means [your definition]. Is that right?

- What's the difference between XXX, YYY and ZZZ? Prompts for use in Stage 3 (asking for definitions or examples)

Prompts for use in Stage 4 (asking for additional word forms and a summary table)

- List the other word forms of XXX
- Create a table with the original words, the additional word forms, a definition and an example sentence.

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