GenAI in Learning, Teaching and Assessment

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HTM3205
Analysing and Interpreting Research

Why did the instructor use GenAI for learning and teaching?

In HTM3205, Emily frequently encountered challenges stemming from students' lack of research experience and interest, particularly in formulating research questions and conducting evaluations. She recognised the opportunities presented by GenAI to explore how it could empower students in their research assignments. Additionally, Emily was interested in identifying any issues or challenges that arose when students interacted with ChatGPT in the learning process, and the corresponding impact on students.

How was GenAI used in this scenario?

Emily primarily integrated a GenAI Training Workshop into HTM3205 to enable students to use GenAI ethically to enhance their research experience. The workshop included an introduction to GenAI tools, a demonstration, and hands-on sessions with design tutorials, targeting the responsible and effective use of GenAI. Some of the topics covered in the workshop include:

- What defines a good research question?
- What is GenAI and ChatGPT?
- Tips for communicating with ChatGPT.
- ChatGPT-powered tools recommendation.
- Ethical use.

DO's	DON'Ts
✔ Use GenAI for **brainstorming** and **generating ideas**.	✗ Do NOT rely solely on AI-generated content as the source of information. **Always verify** and **cross-reference**.
✔ **Check for factual accuracy** of AI-generated content before using it.	✗ Do NOT ask GenAI software to write your essays or academic assignments.
✔ **Use AI-generated content in conjunction with other sources** to ensure your work is reliable and well-informed.	✗ Do NOT input any personal details or confidential information when using GenAI tools to maintain data security and privacy.
✔ **Include any assistance** from GenAI tools in your reference list.	

Emily recommended tools like Researchrabbit, Connectedpaper, and Elicit for students to use a GenAI assistant for this subject.

What was the impact on student learning?

Fifty-one students participated in Emily's study, with 48.8% having no prior experience with ChatGPT. Among the 51 students' ChatGPT-assisted work, 15 were evaluated by Emily as high-quality work with well-formulated research questions. Although students reported encountering 'false information', 'low-quality answers', and 'ChatGPT's inability to follow instructions' when using ChatGPT, the following features were observed in the high-quality work with good research questions:

- An average of 4.06 ChatGPT inquiries were made to formulate good research questions (noting that more inquiries did not necessarily ensure high quality).
- Students were encouraged to ask questions with their own thoughts, leading the ChatGPT conversation rather than following it.
- Students were advised to absorb AI content, rather than simply scanning it.

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

It was crucial for students to understand the course's stance on adopting GenAI. Regardless of whether students found ChatGPT helpful in studying HTM3205, exposure to this experience would help them recognise that quality research still relies on their own skills and knowledge.

Emily noted that more lesson time should be allocated to the GenAI Training Workshop. In the future, she plans to add a dedicated lecture for the workshop, enabling students to adopt GenAI ethically through hands-on experience. In addition to the theoretical components, Emily proposes to increase the weight of student presentations within the course assessment criteria. The idea is to move beyond traditional written assignments, which could potentially be enhanced by tools like ChatGPT, to more dynamic and interactive formats. Presentations followed by live questions and answers will serve as a vital tool in assessing the students' grasp of the subject matter more effectively.