GenAI in Learning, Teaching and Assessment

08

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SO2D01
Eyes on Vision

Why did the instructor use GenAI for learning and teaching?

Lydia has been incorporating technology into her teaching before GenAI became popular, having blended the SO Massive Open Online Course (MOOC)s "How We See the World: Visual Function and Eye Health" and the "SEE 3D Eye Model App" with her classroom teaching. With the emergence of students using GenAI in her subject in 2022/23 Semester 2, she sought to empower and educate them on the ethical and effective use of GenAI. Starting from the 2022/23 Summer Term, Lydia redesigned the group project assessment for SO2D01 Eyes on Vision, which accounted for 50% of the total score, to incorporate GenAI-assisted learning.

How was GenAI used in this scenario?

In SO2D01, Lydia integrated GenAI into the assessment task through guidance and revisions to the assessment task rubrics. She encouraged students to be transparent about their GenAI usage, allowing both students and staff to learn how to effectively incorporate GenAI, and adapt to its development. Lydia provided clear expectations and guidelines (https://www.polyu.edu.hk/ar/students-in-taught-programmes/use-of-genai/) on the use of GenAI for the group project assessment task to students. After reviewing GenAI tools based on their reliability, validity, accessibility, and ethical considerations, Lydia encouraged students to use the following tools: ChatGPT, Scispace, Research Rabbit, Midjourney, Cava, and Murf AI to begin with and to assist their group project assessment tasks. She also encouraged students to explore other tools if deemed appropriate.

Throughout the GenAI-assisted learning process, students were required to maintain a progress log (200-300 words) detailing their use of GenAI in the project, using a provided report template. Guiding questions for the progress logs included:

- What were the roles and purposes of using GenAI tools in your work?
- How did the use of GenAI help you achieve the intended learning outcomes of the assessment?
- How did GenAI involvement influence your work progress and outcomes?
- Which aspects were GenAI particularly beneficial to your work?
- What were the limitations and challenges you experienced in using the technology? How did you overcome them?

What was the impact on student learning?

The pilot study began in the 2022/23 Summer Term with 30 students and continued in the 2023/24 Semester I and II with 80 students. The results showed that GenAI significantly improved the quality of students' work in terms of "Information Presentation" and "Creativity." GenAI tools were found to be particularly useful for:

- Brainstorming ideas and exploring various scenarios.
- Providing grammar checks and vocabulary enhancements.
- Promoting creativity (art and design tools helped create new graphics and animations).

Lydia added two extra eSFQ items in the 2023/24 Semester 1 and 2, which assessed the extent to which:

1. The use of GenAI tools promoted evaluation of information from different sources and developed critical thinking skills
2. The course developed students' ability to use GenAI tools effectively

The responses to these items were very positive on the 5-point Likert scale with 5.0 being Strongly Agree and 1.0 being Strongly Disagree:

Semester	SFQ Score (Q1)	SFQ Score (Q2)	Response Rate
2023-24 Sem 1	4.6 ± 0.6	4.6 ± 0.6	32.9%
2023-24 Sem 2	4.7 ± 0.5	4.7 ± 0.5	45.6%

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

Lydia faced several challenges when incorporating GenAI into her subject, including:

- Some students were initially reluctant to use GenAI
- Some students were concerned about how their use of GenAI would affect their grades
- Some students over-relied on GenAI when researching relevant information

To address these challenges, Lydia encouraged students to embrace and adopt a comprehensive approach to using GenAI, while offering clear and transparent guidelines for its application. She also supported students in practicing responsible AI use, ensuring alignment with the course learning outcomes focused on critical evaluation of information. She hoped that students would develop a greater appreciation for the benefits of using GenAI. Ultimately, students' GenAI competencies might play a role in distinguishing them from other graduates when it comes to future employability.