



Teaching and Learning with Generative Artificial Intelligence

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Key Points

The Office of Faculty Development in collaboration with the Centre for Teaching, Learning and Technology (CTLT) and the UBC Faculty of Medicine AI Working Group discussed considerations and reflections around AI use in medical education.

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Summary

1. Updates to the Faculty of Medicine (FoM) Generative AI (GenAI) Framework

Key principles for developing FoM's GenAI framework:

- GenAI complements but does not replace critical thinking and writing skills.
- Faculty are encouraged to coach students on effective and ethical use of GenAI.
- Faculty should communicate clearly whether GenAI use is permitted in academic tasks.
- GenAI tools must be used to respect and protect sensitive information, particularly patient-related data.

[UBC Faculty of Medicine Framework for Generative Artificial Intelligence \(AI\) in Education](#)

2. Strengths and Limitations of GenAI

Strengths:

- Produces human-like text for essays, articles, and case studies.
- Assists in tasks like question generation and content transformation.
- Creates personalized learning experiences and virtual patient interactions.

Limitations:

- **Bias:** Reflects and perpetuates input biases, e.g., stereotypical representations in generated content.
- **Inaccuracy:** Contextual changes or misinterpretations can result in false outputs.
- **Ethical Concerns:** Issues related to copyright, privacy, and consent.
- **Trust:** GenAI may generate plausible yet fabricated sources and data.

3. An Example of Applications in Teaching and Learning: GenAI in Ophthalmology Pilot

A pilot project in the Department of Ophthalmology allows learners to practice patient interactions and diagnosis through simulations by an AI-powered conversational bot that replies to learner queries with focused, curriculum-aligned responses.

Features of using a Virtual Patient chatbot:

- Allows the learner to ask the virtual patient questions and the virtual preceptor for advice in separate windows
- Virtual preceptor uses applicable cases and is pointed at the curriculum so the chatbot gives focused results
- Virtual preceptor responds with an appropriate amount of information to answer the question; trained to not overwhelm with a textbook of information in its response

4. Emerging Uses

GenAI can augment learning as:

- **A teaching partner:** generating case studies and improving content quality through prompt engineering; assisting in curriculum planning and learning design
- **Student support:** providing students with tools to quickly summarize long cases, refine notes and tutor via Socratic questioning
- **Evaluation and feedback:** Encouraging students to validate AI-generated outputs and engage critically with content

5. Challenges, Risks & Recommendations for Ethical and Effective Use

Challenges & Risks:

- **Privacy:** Risks from sharing sensitive student or patient information with AI platforms.
- **Learning Integrity:** Dependence on AI could hinder essential learning processes like critical thinking and analytical skills.
- **Verification of Outputs:** Faculty and students must validate AI-generated data to ensure accuracy.
- **Bias Awareness:** Understanding and addressing inherent biases in AI tools.

Ethical & Effective Use:

- A need to foster GenAI literacy among educators and learners that includes ensuring they validate AI outputs and are aware of biases.
- Use GenAI as a "co-pilot" to enhance—not replace—human expertise.

The workshop highlighted the transformative potential of GenAI in health professional education, while stressing the importance of cautious, ethical, and informed use. Recommendations included ongoing training for faculty and students, refining frameworks for responsible use, and adopting personalized, adaptive teaching strategies to leverage AI's strengths effectively.

**This summary was prepared using ChatGTP. Human generated notes of the session content were input into ChatGTP and it was prompted, content refined and verified for accuracy using some of the techniques presented in the workshop.*