

Applying the Principles for Artificial Intelligence to Enhance Medical Education

Facilitator Guide

Workshop Description:

Artificial intelligence (AI) is revolutionizing academic medicine. From personalized learning experiences to streamlining administrative tasks, AI offers numerous opportunities to enhance the experience for learners, staff, and faculty working in academic medicine. As AI is applied in areas such as curriculum development, assessment, coaching, and learner engagement, there is a need to support educators, advisors, and staff with principles for the responsible use of AI. This workshop is designed to help participants apply these principles to case studies of AI application and to their own areas within academic medicine in order to responsibly use AI in and for medical education.

Learning Objectives:

1. Discuss the Principles for the Responsible Use of AI in and for Medical Education
2. Apply the principles to case studies of AI application

Workshop Agenda:

Item	Time	Slides
Welcome	5 min	1-2
Introduction • Principles for AI • Demonstration of applying the principles to an example (writing LORs)	15 min	3-15
Discuss case studies in small groups (each group selects one case)	20 min	16-18
Debrief case discussions in large group	10 min	19
Closing	5 min	20-21
Total:		55 min

Case Study Discussion Points:

Case 1: “The Case of the MSPE Adventure”

1. Which of the 7 principles most directly apply to this case?
 - a. **Maintain Human-Centered Focus:** While AI assists in generating summaries, faculty retain ultimate responsibility for the MSPE content, ensuring human judgment remains central.
 - b. **Ensure Ethical and Transparent Use:** The AI role should be clearly communicated to both faculty and students, maintaining transparency in its application.

- c. **Monitor and Evaluate:** The AI output should be regularly reviewed for accuracy and fairness, ensuring alignment with institutional standards. Consider performing regular audits comparing AI-generated summaries against human-crafted narratives.
 - d. **Protect Data Privacy:** Student educational information needs to be protected when giving the AI tool access. There needs to be clear protocols for anonymization and data governance.
 - e. **Foster Education, Training, and Continuing Professional Development:** Faculty and staff involved in creating the MSPE will require hands-on training on prompt design, interpretation of AI outputs, and oversight best practices to use the tool effectively.
2. What should the faculty and staff consider as they plan to use AI to improve the MSPE creation process?
- a. How will student data be protected in the process (eg, FERPA)
 - b. How will they provide faculty oversight of the output
 - c. How they plan to test it and gather feedback (eg, from students, faculty, program directors)
 - d. Would they disclose the process to the students, residency program directors, and any other stakeholders
 - e. How soon they plan to implement it (ie, which academic year)

Case 2: “The Case of the Course Director Feedback Frenzy”

1. Which of the 7 principles most directly apply to this case?
- a. **Foster Education, Training, and Continuing Professional Development:** Faculty should be trained to interpret AI-generated summaries, promoting effective use of the technology.
 - b. **Monitor and Evaluate:** Continuous assessment of the AI tool's effectiveness ensures it is accurately capturing the feedback and maintaining fairness.
 - c. **Provide Equitable Access to AI:** The institution needs to promote similar access and training for faculty across various departments so that all can benefit equally.
 - d. **Protect Data Privacy:** Student evaluation comments—which may contain identifiable information—must be handled under institutional privacy policies, particularly with consideration to whether or how they are uploaded to an AI tool.
 - e. **Ensure Ethical and Transparent Use:** Students should know that their feedback may be analyzed by AI, and faculty/course directors should disclose how summaries are produced and used in CQI.
2. What should the assessment team and course directors consider as AI is used to summarize and synthesize student evaluations of courses?
- a. How to ensure the summary is accurate
 - b. How to train course directors about using the AI tool and interpreting the output
 - c. How to evaluate the effect on the course evaluation process and the effect on CQI

Case 3: “The Case of the Missing Diagnoses”

1. Which of the 7 principles most directly apply to this case?
- a. **Develop Curricula Through Interdisciplinary Collaboration:** The development of AI-driven virtual patients will require collaboration between medical educators, clinicians, and technologists to ensure educational effectiveness and ethical use.

- b. **Maintain Human-Centered Focus:** Since the AI tool is representing simulated patients, efforts should emphasize the human-centeredness of patient encounters
 - c. **Monitor and Evaluate:** The effectiveness of the simulations should be regularly assessed through student performance and feedback, allowing for continuous improvement.
 - d. **Provide Equitable Access to AI:** Providing virtual patients and equal access to all students can help promote equity in the clinical learning environment.
 - e. **Protect Data Privacy:** If student performance data are used for AI training, consent processes and data de-identification protocols would need to be implemented.
- 2. What should faculty consider as they plan to implement this virtual patient tool into the curriculum?
 - a. How will the AI tool be trained on clinical content
 - b. How will students be instructed about how to engage with the tool; what expectations for appropriate engagement will be set
 - c. How will performance be assessed (for formative or summative purposes)
 - d. How will student performance and feedback be monitored
 - e. How will faculty be trained to interpret simulation analytics
- 3. How would considerations be affected if the virtual patients are used for summative assessment versus formative assessment?
 - a. The validity argument will be more important with summative use.
 - b. The richness of feedback will be more important with formative use.
 - c. How students engage with the tool may be different if it's an assessment for learning (where students use it as a learning tool) versus an assessment of learning (where students may view it as higher stakes).
 - d. If student performance data is being gathered (which will be necessary with summative use), data privacy and adherence to FERPA will be required.
 - e. Case difficulty may need to be calibrated differently for formative versus summative use.