



University of Colorado **Anschutz Medical Campus**

Bite by Byte

AI & Educators Roundtable Series

Presented by the Academy of Medical Educators





Supporting Learners Who Are Anxious — or Over- Reliant — on AI

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University of Colorado
Anschutz Medical Campus

Disclosure

None

- AI was used in the production of this talk
- Seymour did not use AI due to anxiety about the recent news
- Scope note: today's focus is AI and medical education — how we teach and how learners learn. Anxiety and other psychiatric conditions matter greatly, but they are not the subject of this talk.





Orientation

Session Purpose and Tone

This session highlights AI's current role across educational and clinical settings, promoting an inclusive atmosphere for all experience levels.

Collaborative Roundtable Format

The Bite-by-Byte Roundtable encourages shared learning and ongoing dialogue rather than one-way content delivery.

Cross-Disciplinary Engagement

The session invites multiple health professions to participate equally, breaking down silos and fostering cross-campus collaboration.

Psychological Safety and Participation

Creating a welcoming, non-intimidating environment encourages active participation and shared ownership of learning.



The set up for today

1. Discuss the current AI use experience of our students as of 8 weeks ago
2. Outline related concerns/issues
3. Share and discuss implications
4. Share and discuss actions and teaching practices in a time of uncertainty

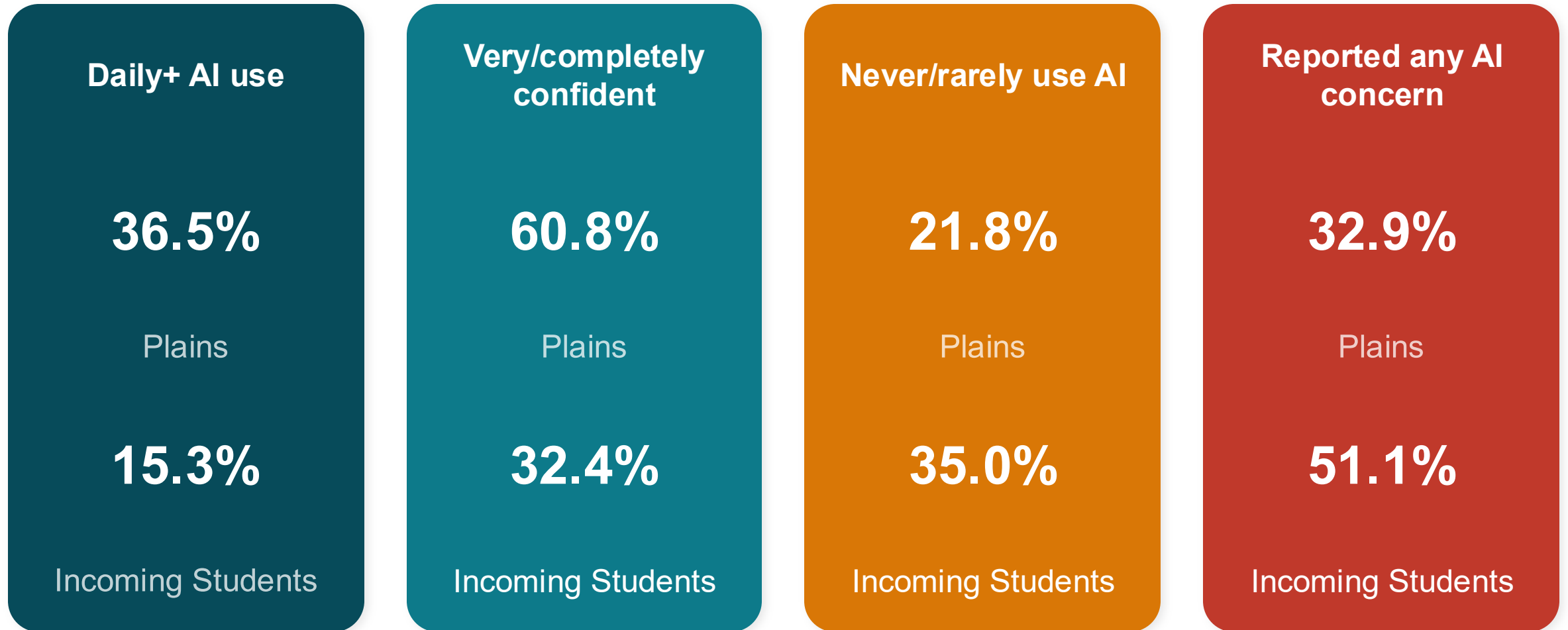
Here we go

Hold one learner or teaching situation in mind as we go.

- Where have you struggled to balance encouraging AI use with preserving authentic learning?
- What conversations have you had with learners about responsible AI use?
- What strategies have worked — and where are you still looking for ideas?

 Chat: In one word, how do your learners feel about AI right now?

The current local reality



💬 Chat: Does this gap match what you're seeing in your own program?

In their own words

I will personally never use AI by choice for the reasons above and because I can do all of its functions better myself or with other existing tools.

In their own words

I am most worried that learners are relying on AI too much and not learning the information or skills in the first place. I am worried about the quality of care patients will receive due to our excessive reliance on ai.

In their own words

I am afraid that I won't be using AI enough and will be behind when I enter the workforce. It seems to me that AI is the next great tool, like the internet once was, and I don't want to be behind although I do despise using AI.

In their own words

I have used AI to revise essays for grammar as well as study purposes. If I have a question on a topic sometimes I will ask AI for a summary before checking the validity of it from published articles. Sometimes it's helpful in note summary or generating practice questions.

In their own words

I find that using AI helps me organize concepts and generate outlines. It also assists me in creating study schedules for complex concepts and breaking them down into smaller, manageable chunks. Occasionally, I use the voice chat function to recite a concept from memory, and AI can provide feedback. I often use it to check grammar and syntax because I'm self-conscious about my use of grammar, as English is my second language :)

Prompt Corner

Hi, how can I assist?

You are developing a discussion around the affects of ai on medical education entitled: Supporting Learners Who Are Anxious — or Over-Reliant — on AI. Provide 3 bullet points that help to frame the disucssion

- **AI Anxiety Reflects Both Capability Gaps and Identity Concerns**

Learners may worry that they are falling behind peers who use AI effectively, while also questioning what skills remain uniquely “theirs” as future physicians. This anxiety is often less about the technology itself and more about professional identity, competence, and trust in their own clinical reasoning.

- **Over-Reliance on AI Can Create an Illusion of Mastery**

AI can generate accurate-looking explanations, differential diagnoses, and study materials, but passive acceptance may bypass the cognitive struggle required for deep learning. The key educational question is not whether learners use AI, but whether they can critically evaluate, challenge, and learn from its outputs.

- **Educators Should Shift from Restricting AI to Teaching AI Literacy and Judgment**

Rather than positioning AI as a threat or shortcut, medical education should emphasize when and how to use AI appropriately, recognize its limitations, verify information sources, and maintain accountability for clinical decisions. The goal is to develop clinicians who are both AI-capable and independently competent.



Four learning-science lenses

Each frame asks a different question about what AI should and shouldn't do



1. Self-Regulated Learning

A scaffold for self-regulation — not a substitute for it.



2. Cognitive Load Theory

When does support become cognitive off-loading?



3. Cognitive Apprenticeship

Make clinician and AI reasoning visible and open to critique.



4. Self-Determination Theory

Build confidence in themselves, not in their tools.

Same learner, four questions: which cognition must stay with them?

The tension

What learners get from AI, and what worries them most



Concept explanation & tutoring

Top use theme — 49.5% of ISS students



Inaccurate or misleading output

Top concern — 91–94% of concerned students



Practice questions & self-testing

40.9% — quiz, then explain misses



Becoming too dependent on AI

86% Plains · 61% ISS concerned



Summaries & study guides

31.2% — condensing material quickly



Missing deep learning

78% Plains · 65% ISS concerned



Chat: Which of these feels most true in your course?

Frontline view

“AI is my best friend — I’m so excited about it.”

— student with positive affect bias toward AI

“AI is just another thing I have to learn how to do, and I don’t know how to use it.”

— anxious, reluctant student

Also common: moral or environmental objections to AI · strong appetite for concrete how-to guidance (class Discord, AMBOSS AI walkthroughs)

 **Chat: Which students sounds most like yours?**

We've seen this before

Anki shows offloading can be good — when it preserves the cognition that matters

Anki

Automates: what to review and when

Learner still does: retrieves the answer from memory

Overuse risk: isolated fact mastery without integration

Generative AI

Can do: explain, summarize, simulate, and reason

Learner should still: question, predict, and verify

Overuse risk: outsourcing explanation and judgment entirely

Same question every time: what should the technology automate, and what must the learner still do?

The evidence catches up

GenAI use splits into two patterns

Agency-supporting when learners keep control; agency-eroding when they transfer it.

Wang et al. 2026, Behavioral Sciences

You can't feel the difference

Both feel equally good in the moment — learners can't tell which they're doing.

Zhu Q, et al. 2026, Front. Psychol. 17:1878629.

Anxiety feeds dependence

AI anxiety lowers self-efficacy, which drives dependence.

Wu, Ni, He & Wee 2026, Frontiers in Psychology

Calibration isn't just a teaching heuristic anymore — it's what the newest cognitive-offloading research is converging on.

Academic AI Overreliance

Academic AI Overreliance should not be understood as frequent AI use per se, since recurrent use of generative AI may also reflect **strategic and adaptive learning practices**. The construct refers more specifically to a pattern in which AI assistance becomes linked to the **delegation of academic reasoning** and **self-regulatory processes**, particularly when students report **difficulty sustaining learning tasks without such support**.

We can measure this now

A validated overreliance scale

A new 22-item scale for health-sciences students measures two dimensions: emotional-dysregulated reliance and cognitive reliance (delegating reasoning and problem-solving to AI).

Oleas, Rodas & Alarcón Rubio 2026, Frontiers in Digital Health

Dependence has a mental-health cost

A cross-sectional study of medical students found dependent generative-AI use associated with higher anxiety and depression scores than non-dependent use.

JMIR Formative Research 2026

Worth naming out loud: dependence isn't only an academic-integrity issue — it tracks with how students are doing.

Two learners, one framework

The anxious or reluctant learner

“Everyone else is using AI. Am I falling behind?”

Needs: Basic AI literacy — NOT more pressure to use it

Faculty move: Name the specific skills they actually need

The over-reliant learner

“Why struggle when AI can explain it instantly?”

Needs: Unaided attempt before AI assistance

Faculty move: Encourage learner to use AI as critic, not answer provider

Roundtable discussion

Pick one course activity. Apply the calibration check. Share out.

- If students use AI mainly to explain concepts and generate practice questions, what would “good use” look like in your course?
- Which activities require independent struggle because the struggle IS the skill?
- Where would you draw a red line — for learning, professionalism, privacy, or patient safety?
- What's one activity you could redesign so AI creates more thinking, not less?

Next Steps

- Topics you'd like
- Speakers you'd like (internal or external)
- Comments on format, timing

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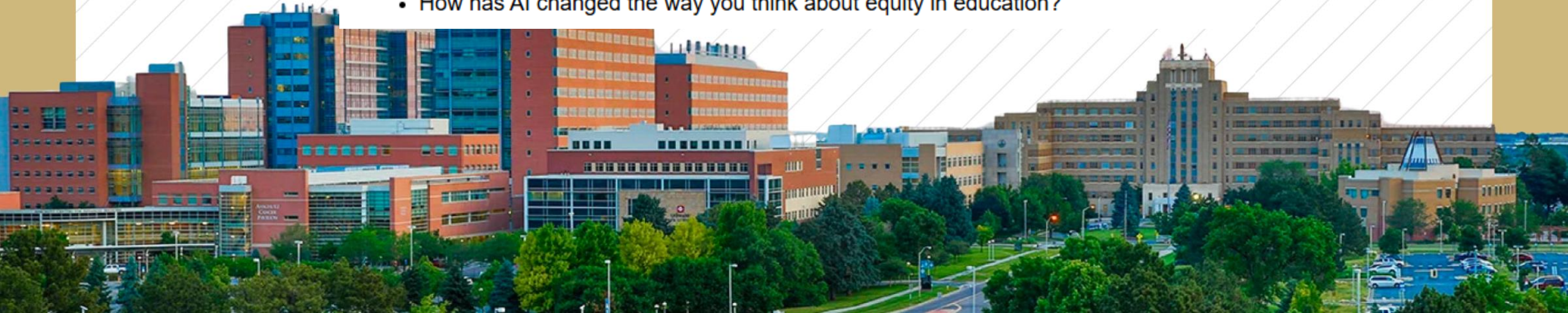
December 17, 2026

Equity, Bias, and Access in Educational AI

Pre-reflection Questions

Contemplate these questions before the session and come prepared to discuss.

- Where have you seen AI improve or limit access to learning?
- What biases have you noticed in AI tools or outputs?
- How has AI changed the way you think about equity in education?





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Thank You

**To Deb Seymour — and to you and
the academy**

