

Here's How One Professor is Using AI in the Classroom:

Integrating AI Into Learning, Creativity, and Culture

UC Berkeley Professor Greg Niemeyer recently gave two groups of students the same digital-art assignment. One group followed a step-by-step online tutorial. The other was allowed to ask ChatGPT for help. Both completed the task — but in the tutorial group, almost every student's project looked like the demo, while the ChatGPT group came back with twelve noticeably different images. For Niemeyer, it showed how AI can encourage exploration instead of repetition.

Niemeyer, a data artist and professor of media innovation, told the story during an OpenAI Forum event on “Minus AI, Plus AI, Times AI — A Vision for an AI Pedagogy,” moderated by OpenAI's Natalie Cone.

During the talk, Niemeyer laid out a formula for learning with AI: $C = Q \times T \times K$, where C is cognitive outcome, Q is question quality, T is trust, and K is the strength of the knowledge base. Because the factors multiply, if any one drops to zero, learning breaks down — even if the others are strong. “If T falls to 0, C falls to 0, no matter how strong Q or K are,” he said.

Niemeyer used the formula to introduce a three-part framework for how to best incorporate AI into education. *Minus AI* focuses on learning without technology, *Plus AI* involves working with AI transparently, and *Times AI* treats the technology as a medium that can reshape how knowledge is organized. Each mode impacts the formula differently, and each carries different risks and benefits

In Minus AI mode, Niemeyer focused on the value of direct, unmediated experience. He described a course on California water resources where students first analyzed data showing that conservation efforts had continued even after a major drought ended. That seemed like a simple positive — until the class visited a local water filtration plant. Staff there explained that lower water use also meant lower revenue, reduced maintenance, and potential job losses. The encounter, Niemeyer said, was a reminder that real-world context can complicate what data alone appears to show.

In Plus AI mode, Niemeyer encouraged the use of ChatGPT openly in educational settings rather than as something students hide or rely on in isolation. In practice, that means teaching students how to ask AI tools good questions, how to critique AI-generated answers, and how to best cite and describe AI contributions.

Done well, he said, PlusAI teaching can sharpen reasoning by turning AI into a conversational partner rather than a shortcut.

In Times AI mode, he described AI not just as a tool but as a medium that can reshape how knowledge is organized and delivered. He pointed to possibilities like courses that adapt their difficulty in real time, AI systems that handle routine administrative work so teachers can focus on mentoring, and new kinds of models trained on ecological data that expand how students understand the world.

In that method of leveraging the technology, AI can expand what students learn and how fast they learn it, but it also introduces new ways for things to go wrong if no one is watching how the system behaves. Times AI teaching, he said, means treating AI as an active presence in the classroom, and creating settings where students and intelligent systems can work side by side.

Niemeyer stressed that trust shapes whether students learn anything at all. He explained that some students already doubt their own abilities, and they're more likely to let AI do the work for them, while more confident students use AI to learn new things, not to replace their own thinking.

When trust begins to decline, Niemeyer said students stop asking questions — and in his formula, when questions stop, cognitive outcomes drop, too.

Niemeyer closed by arguing that the goal isn't to choose one mode and reject the others, but to know when each one fits. Minus AI can ground students in real experience, Plus AI can help them explore ideas more openly, and Times AI can introduce new ways of organizing knowledge.

“The future of education will not be Minus or Plus or Times AI,” he said. “It will be how we move among them wisely, kindly, and together.”

Watch a recording of the full conversation here:

<https://forum.openai.com/home/videos/event-replay-minus-ai-plus-ai-times-ai-a-vision-for-an-ai-pedagogy-2025-11-13>

