## **Critical Thinking**

#### 1. They fundamentally misunderstand how AI works – it’s a tool like calculators which still requires critical thinking to function.

**Gibson 25** (Jen Gibson is an Instructional Coach, Instructional Technology Facilitator, and teacher at Capuchino High School, "From GPS to GPTs: Steering Students Toward AI Literacy", Krause Center for Innovation, https://krauseinnovationcenter.org/from-gps-to-gpts-steering-students-toward-ai-literacy/, 1-6-2025, DOA: 2-20-2025) //Bellaire MC

**AI is like your GPS. You plug in the destination**, **and it gives you directions. It’s great at finding the fastest route**, avoiding traffic, and even letting you know when there’s an In-N-Out Burger nearby. **But** here’s the thing: **if you don’t know where you’re going in the first place,** the **GPS is useless.** And if the GPS tells you to turn into a lake (it happens!), you’re the one who has to catch the mistake before things go off the rails. That’s **AI**. It**’s a tool** that helps you get from point A to point B more efficiently. But it doesn’t know why you’re going there, and it won’t tell you if the destination doesn’t make sense. **It needs your critical thinking** and judgment **to steer it in the right direction.** Otherwise, you might end up at “Lake In-N-Out!”

#### AI forces more crit thinking

**Chen 23,** PhD student, Stanford University (Claire Chen, 3-9-2023, “AI Will Transform

Teaching and Learning. Let’s Get it Right.,” Stanford Human-Centered Artificial

Intelligence, https://hai.stanford.edu/news/ai-will-transform-teaching-and-learning-

lets-get-it-right)

Stanford political science Professor Rob Reich proposed a compelling question: Is generative AI comparable to the calculator in the classroom, or will it be a more detrimental tool? Today, the calculator is ubiquitous in middle and high schools, enabling students to quickly solve complex computations, graph equations, and solve problems. How- ever, it has not resulted in the removal of basic mathematical computation from the cur- riculum: Students still know how to do long division and calculate exponents without technological assistance. On the other hand, Reich noted, writing is a way of learning how to think. Could outsourcing much of that work to AI harm students’ critical think- ing development? Liang suggested that students must learn about how the world works from first princi- ples – this could be basic addition or sentence structure. However, they no longer need to be fully proficient – in other words, doing all computation by hand or writing all essays without AI support. In fact, by no longer requiring mastery of proficiency, Demszky argued that AI may actually raise the bar.The models won’t be doing the thinking for the students; rather, students will now have to edit and curate, forcing them to engage deeper than they have previously. In Khan’s view, this allows learners to become architects who are able to pursue something more creative and ambitious. And Noah Goodman, associate professor of psychology and of computer science, questioned the analogy, saying this tool may be more like the printing press, which led to democratization of knowledge and did not eliminate the need for human writing skills.

#### Gen ai in education enhances crit thinking.

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In the context of medical education and training, this technology can be used to generate a wide variety of virtual patient cases. These cases can be based on a diverse range of medical conditions, patient demographics and clinical scenarios, providing a comprehensive learning platform for medical students and healthcare professionals [51, 52]. One of the primary benefits of using generative AI in medical education is the ability to create a safe and controlled learning environment. Medical students can interact with these virtual patients, make diagnoses and propose treatment plans without any risk to real patients. This allows students to make mistakes and learn from them in a low stake setting. Generative AI can also create patient cases that are rare or complex, giving students the opportunity to gain experience and knowledge in areas they might not encounter frequently in their clinical practice. This can be particularly beneficial in preparing students for unexpected situations and enhancing their problem-solving skills. Furthermore, the use of AI in medical education can provide a more personalized learning experience. The AI can adapt to the learning pace and style of each individual, presenting cases that are more relevant to their learning needs. For example, if a student is struggling with a particular medical condition, the AI can generate more cases related to that condition for additional practice.

In addition to creating virtual patient cases, generative AI can also be used to simulate conversations between healthcare professionals and patients [51, 52]. This can help students improve their communication skills and learn how to deliver difficult news in a sensitive and empathetic manner. Moreover, the integration of AI in medical education can provide valuable data for educators. The AI can track the performance of students, identify areas of improvement and provide feedback, helping educators to refine their teaching strategies and curricula.

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#### AI is hardly the biggest use of electricity

**Cho 23**

Cho, Renee. “AI’s Growing Carbon Footprint.” State of the Planet, June 9, 2023,

https://news.climate.columbia.edu/2023/06/09/ais-growing-carbon-footprint/.

Accessed February 14, 2025.

In 2021, global data center electricity use was about 0.9 to 1.3 percent of global

electricity demand. One study estimated it could increase to 1.86 percent by 2030. As

the capabilities and complexity of AI models rapidly increase over the next few years,

their processing and energy consumption needs will too. One research company

predicted that by 2028, there will be a four-fold improvement in computing

performance, and a 50-fold increase in processing workloads due to increased use,

more demanding queries, and more sophisticated models with many more

parameters. It’s estimated that the energy consumption of data centers on the

European continent will grow 28 percent by 2030.