Does generative AI weaken critical thinking?

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There has been a lot of speculation and some preliminary research about whether frequent use of generative AI products such as ChatGPT and Google Gemini might inhibit critical thinking. After reading some of the research and drawing on plenty of personal experience, I've done a bit of critical thinking about this question myself and concluded that the answer is nuanced. Yes, generative AI can become a substitute for rigorous research and thinking, but it can also be a tool that helps people think more critically by freeing them from mundane tasks.

Not a new issue

Before getting into the research, I'm reminded of similar concerns raised about earlier technologies, beginning with Socrates, who worried that writing would erode our reliance on memory and make it possible to appear knowledgeable without truly understanding what we claim to know. As absurd as that may sound in 2026, in some sense, he was right. Written sources give us indirect knowledge of events we didn't witness ourselves and allow us to revisit information when we need to refresh our memory. They can also tempt us to rely on other people's thinking instead of our own. Nevertheless, most of us would agree that reading and writing have done a great deal to help humans better understand and analyze their world.

I also think about more modern tools. Critics once argued that typewriters made it too easy to produce words quickly, without the pauses that handwriting imposed to consider what was being said. In the 1970s, calculators sparked fears that they would weaken basic arithmetic by encouraging dependency, countered by the argument that they would free students to focus on deeper mathematical understanding.

In practice, the outcome depended on what was being taught. Calculators can interfere with learning basic arithmetic, but they are empowering for advanced math. I learned that in graduate school, when I was, for the first time, able to understand and even generate complex statistics using calculators and later computers. Spell-checkers and early grammar checkers, by contrast, sparked relatively little debate because they corrected surface-level errors rather than replacing deeper thinking.

What the research says

Whether in school, at work, or even at home, the question I'm struggling with now is whether AI tools will weaken our ability to think critically and remember important facts. And as someone at an age when staying mentally engaged matters more than ever, I'm especially attentive to how these tools might impact cognition.

A 2025 study from Microsoft Research, conducted in collaboration with scholars at Carnegie Mellon and Cambridge University, examined generative AI's impact on the critical thinking of knowledge workers. The researchers found that outcomes depended largely on confidence, both in the users' own abilities and in the AI. When users trusted the AI more, they tended to think less critically; when they had greater confidence in themselves, they were more likely to remain engaged, even while using AI.

The researchers found that although generative AI can improve efficiency, it can also inhibit critical engagement with work and potentially lead to long-term overreliance, diminishing independent problem-solving skills. They also found that AI changes the nature of critical thinking, shifting it away from creating ideas from scratch and toward verifying information, integrating responses, and overseeing tasks.

That shift strikes me as familiar. It resembles how senior executives, or professors and authors fortunate enough to have research staff, have long worked: spending less time on the mechanics of research or first drafts and more time exercising judgment, synthesis and oversight. There is nothing unusual about senior executives or politicians relying on others to help write speeches, op-eds, or briefing materials.

For people who are already well versed in their subject and experienced in their careers, general-purpose AI can be a powerful tool, much like a capable junior staffer, that helps them work more efficiently while leaving essential critical thinking in human hands.

No one knows everything

Even when the subject is new, AI can be extremely useful for research. None of us knows everything. Whether it's a library card catalog, a stack of books and journals, a Google search, or tools such as ChatGPT and Gemini, we've almost always relied on some kind of tool to help us gather information. I've never heard anyone accused of lacking critical thinking simply for consulting reference material, but I would seriously question anyone who merely regurgitated what they read, or what a reference librarian told them, without understanding, evaluating and corroborating it.

The calculator metaphor is useful here. If someone is learning basic arithmetic, using a calculator is probably cheating but for advanced math, it's essential. Students who are just learning foundational skills need to use tools such as generative AI as an adjunct, not a substitute, for generating ideas, validating information and crafting arguments. As they mature and advance, the balance shifts, and I see far more upside than downside in their use of AI.

The equation is slightly different in the workplace. Knowledge workers should be encouraged to use AI, but also reminded that they are responsible for vetting the accuracy of whatever the technology produces. As AI improves, it becomes increasingly tempting to rely on it uncritically. But as I've learned on several occasions, it can make mistakes, and regardless of where information comes from, the writer or speaker, not the AI, is responsible for the final outcome.

As with every major tool that came before it, generative AI isn't inherently good or bad for how we think. The real question is whether we use it to replace thinking or to support it.

In the interest of transparency, I used ChatGPT to assist with research and light editing on this column, which was also reviewed by a human editor. I did the writing, and more important, the thinking. The tool saved time and improved the outcome, which is exactly what tools are meant to do. I should also note that I am CEO of ConnectSafely, which partners with AI providers OpenAI, Google and Meta.